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WELFARE, ETHNICITY, and ALTRUISM

New Findings and Evolutionary Theory



Editor

FRANK KEMP SALTER

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and
ALTRUISM

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Editor

FRANK SALTER



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The survival value of altruism in a crowded world approaches zero because what ego gives up goes necessarily into the commons. What is in the commons cannot favor the survival of the sharing impulses that put it there unless limits are placed on sharing. (Garret Hardin, *The Limits of Altruism*, 1977)

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Acknowledgements

I wish to thank the Werner Reimers Foundation for hosting the meeting that led to this book, at their headquarters in Bad Homburg, Germany, 10–13 February 1999.

Preface

This volume is the core of a longer compilation that contained commentaries at the end of each chapter followed by author response. The original manuscript concluded with a 'Roundtable' chapter concerned with ethical and political issues. Participants in the 1999 symposium on which this volume is based were invited to critique each other's chapters and answer Roundtable questions on ethics and policy. There was also to be a chapter balancing the present Chapter 7 on economic growth by William Masters and Margaret McMillan. For this purpose I had chosen a previously published paper by William Easterly and Ross Levine ('Africa's Growth Tragedy: Policies and Ethnic Divisions', *Quarterly Journal of Economics*, 112, November [1997], pp. 1203-50), which had helped inspire the symposium. The manuscript proved too long and 40,000 words had to be cut, comprising the chapter commentaries, Roundtable chapter, and also the chapter by Easterly and Levine. To compensate for the last cut I expanded my commentary on Masters and McMillan (Chapter 8 -- see the discussion of Easterly and Levine, pp. 151-3), with the resulting clash of paradigms expected when a political scientist critiques an analysis presented by economists. The two chapters taken together retain some of the cut-and-thrust originally intended to characterize the whole volume.

The volume contains all the new research findings presented at the original symposium in a more concise format. Hopefully it will stimulate further inquiry into the relationship between ethnic diversity and public altruism.

Foreword

This book deals with the relationship between ethnicity and public policy. It consists of a number of original studies by a distinguished interdisciplinary group of contributors, whose researches bridge the gap between the social and biological sciences. The focus is on a 'sociobiologically informed social policy', which reflects a differential altruism. The major thesis, which is likely to provoke controversy, is that ethnically heterogeneous societies are not only prone to conflict, but tend also to be hostile to welfare policies. Group loyalties, based essentially on kinship relationships, are of paramount importance both for public welfare schemes and private charitable giving, which are directed as much as possible at ethnically specific groups. As ascriptive connections thin out, intergroup antagonisms grow, and altruism becomes weaker: in short, there are lower performance levels in ethnolinguistically plural societies. There is thus a direct relationship between the decline of homogeneity and a more selective social policy. To make the point about what they call 'selfish cooperation' – a primordialist aspect of civic culture – the authors elaborate on the importance of ethnic solidarity, group-level nepotism, and the racist aspects of anti-welfare attitudes, which complement and go beyond traditional libertarian anti-welfare ideology, and which modify socialist pro-welfare attitudes. In substantiating the behavioural aspect of what amounts to an organic model of the State, the authors lean upon social, psychological, and biological approaches to group behaviour, including analogies from the animal kingdom, and they subject their contentions to empirical tests. The studies are voluminously documented and buttressed by in-depth discussions of the United States, Canada, and Russia, and by extensive and cross-national survey data.

William Safran

Introduction

Introduction:
The Symposium Target Paper in
Broader Context

Frank Kemp Salter

INTRODUCTION

Is welfare less generous in multi-ethnic societies than in relatively homogeneous ones? Does a society's ethnic heterogeneity affect its foreign aid expenditure? Should such effects exist, can evolutionary theory help explain them? Which policy implications, if any, can be drawn from these effects and their evolutionary interpretation? These were the questions posed to a leading group of social scientists at the symposium 'Welfare, Ethnicity and Altruism: Bringing in Evolutionary Theory', hosted by the Werner Reimers Foundation in Bad Homburg, Germany, 10-13 February 1999. The resulting discussion raised additional themes of economic growth, social conflict, social capital, affirmative action, multiculturalism, globalization, and population, all discussed in this volume. Clearly the relationship between welfare and ethnicity has profound ramifications, yet is poorly understood, even by political thinkers on the Left concerned about preserving caring, inclusive societies and protecting the environment.¹

The symposium was organized around questions posed in a target paper reproduced below. In the target paper I argued for a link between ethnic heterogeneity and declining welfare. The argument was based on an evolutionary interpretation of a wave of recent findings by economists, political scientists and sociologists. I argued that the decline in welfare rights observed in multi-ethnic states is due to a decline in public altruism; the willingness of citizens to aid strangers. Public altruism declines, I suggested, when fellow citizens are perceived to belong to different ethnic groups, so that the society at large is no longer identified with one's own ethnic group. People appear, and are, less familiar to one another, and this loss of familiarity, including shared ethnicity, elicits less altruism than found in homogeneous societies.

The majority finding of the chapters in this book support the target hypothesis. The theory responsible for this success was drawn from the research of Irenäus Eibl-Eibesfeldt and Pierre van den Berghe, both present

in this volume. The ethological and sociobiological theories that these scholars have (respectively) developed converge on the view that ethnic solidarity is due to individuals conceiving of their ethnic groups as extended families – an ethnic form of familiarity. Ethnic groups do resemble families, primarily because they are descent groups but also because they often have characteristic gene frequencies that distinguish them from other ethnic groups. Shared descent is culturally marked by traditions of language, dress, and religion that are passed on within families and the broader community. It can also be marked physically by racial and familial resemblances. The possession of these ethnic group-markers facilitates the development of public altruism; a willingness to share resources to some extent with citizens at large. As ethnic heterogeneity increases, society resembles less and less an extended family due to accumulating cultural and racial differences. As a result, public altruism declines across the society as a whole, but survives within ethnic groups.

In this introductory chapter, I restate the target paper before making some additions to data and theory. In the target paper, I assumed that welfare depends on altruistic motivation towards recipients on the part of voting taxpayers. That assumption is not wholly true. While the evidence reported in the following chapters indicates an altruism effect, there are undoubtedly other important factors, sociological and economic, influencing welfare. The target paper can also be improved upon by distinguishing redistributive from non-redistributive public goods and intermediate types, a point made by Sanderson and Vanhanen in their joint chapter.

The target thesis finds points of resonance with mainstream political theory of welfare, as I set out more fully in Chapter 15. Political philosophers Michael Walzer and David Miller both apply the family analogy to the welfare state. Political scientist Gary Freeman argued in the 1980s that because welfare relies on a sense of kinship, open borders inevitably degrade welfare rights. In their classic *Regulating the Poor: The Functions of Public Welfare*,² Frances Piven and Richard Cloward conclude that ethnic divisions have kept the American welfare state weak. On the practical side of politics, New York Governor Mario Cuomo proclaimed the ‘family of America’ in arguing for generous welfare policies in the 1984 United States presidential elections. However, until recently these interpretations have lacked much hard data on how ethnic diversity affects public altruism, including welfare, both in the United States and elsewhere. The studies conducted for this volume contribute to the growing empirical support for these views, as well as fresh theory in the form of postulated evolutionary mechanisms.

The symposium’s findings contribute to knowledge of how ethnicity affects modern mass society in the political and economic realms, and how best to manage these impacts. It is important to know that persistent ethnic diversity generates costs as well as acknowledged benefits such as increasing cultural and culinary variety. Those costs are considerable. As documented in

the following chapters, they include a tendency to lower redistributive welfare and charity, to increased collective violence, to lower economic growth in economies most in need of it, and to lower foreign aid. Ethnic diversity also tends to reduce the efficiency of government and the fairness of policing, damage social capital in the form of public trust and commitment to the community, and raise levels of inequality and corruption.

THE ORIGINAL TARGET PAPER

Evolutionary theory predicts that altruism should be stronger within ethnic groups than between them.³ This is hardly a controversial view with regard to the negative side of ethnic relations, especially violent conflict, in light of the ravages of nationalist wars and, more generally, the long history of inter-ethnic discord;⁴ but the theory has not been systematically extended to the quieter, yet significant, positive side of ethnicity – communal solidarity. By focusing on violent conflict and the concomitant opposition between in-group affiliation and out-group hostility, ethnic research has tended to overlook grades of altruism and the effect of such gradations on social processes. Welfare politics and economics are promising areas in which to discover and examine differential altruism. From an evolutionary perspective, welfare systems should be easier to develop and maintain in ethnically homogeneous societies than in more heterogeneous ones; mono-ethnic welfare states should be more generous than multi-ethnic ones.

The evolutionary prediction follows from kin selection theory, which interprets the behavioural universal of nepotism to be a product of the evolutionary history of altruism. In that theory, the rigour of natural selection meant that altruism – including the unreciprocated giving of resources to another individual – was only viable when practised between close kin.⁵ Some theorists argue that group selection mechanisms have also shaped human altruism.⁶

According to van den Berghe,⁷ who coined the term 'Ethnic Nepotism Theory' in 1981, ethnic groups develop solidarity when they come to think of themselves as families. This makes sense from van den Berghe's kin-selection perspective, but also fits with classical ethological theory as expounded by Eibl-Eibesfeldt who, as early as 1970,⁸ observed that national solidarity is based on family feeling. A similar point is made by Horowitz⁹ in his major 1985 treatment of ethnic conflict. Horowitz concurs with van den Berghe and Eibl-Eibesfeldt (though without referencing them) that ethnicity is based on a 'family resemblance'; that kinship is crucial to understanding the central role of family structure in determining ethnic identity and in explaining the intensity of ethnic conflict.

Of course, the genetic relatedness of ethnic groups is greatly diluted compared with that of families. Nevertheless, two randomly chosen members

of the same ethnic group share, on average, more genes than they do with members of other groups. Depending on circumstances, it might be adaptive for an individual to make sacrifices for a large number of co-ethnics, if the result is an increase in the altruist's genetic representation in the meta-population. Ethnic kinship is too weak to justify (i.e., pay-off in genetic fitness) significant altruism between individuals. Consistent with this evolutionary logic, ethnic solidarity is most likely to become a strong determinant of interpersonal relationships following indoctrination and manipulation by rituals, symbols and ideologies that generalize familial loyalties to larger populations.¹⁰ The critical role of culture does not alter our species' basic motivational repertoire, and ethnic nepotism theory proposes that the motivational basis of ethnic loyalty is nepotism, a phylogenetically old adaptation. This is consistent with the role of cultural 'recognition markers' such as language and religion in demarcating groups, and the salience of racial markers as opposed to cultural ones. Due to this group-level nepotism, individuals are more willing to invest resources and emotions in the whole group.¹¹ The group selection version overlaps a good deal with ethnic nepotism theory in positing the importance of group-markers, but de-emphasizes the importance of biological markers. Both approaches posit a major role for cultural factors in defining group boundaries and level of solidarity. Thus, evolutionary thinking about ethnic relations and social behaviour in general is converging on constructionism, albeit a non-relativistic and biologically informed version that has been called 'social technology theory'.¹²

A related line of evolutionary analysis has been to identify cross-cultural universals underlying human social systems. Disciplines closely connected to the behavioural level, such as human ethology, biological anthropology, and evolutionary psychology, have uncovered social universals resistant to cultural and historical changes.¹³ Although all social systems rest on behavioural universals at the micro-level, they are strongly influenced by macro-level processes such as cultural evolution, economic forces and social planning. The interdependence of micro- and macro-causes means that the evolutionary perspective should be included as a valuable heuristic in discovering more cross-cultural principles underlying complex socio-economic phenomena.¹⁴ In the case of welfare systems, despite a considerable degree of cultural determination of attitudes and behaviour, some important biological principles may operate.

I noted above that ethnic behaviour is sensitive to cultural influence. Many features of modern culture, such as urban living, mass entertainment and news, are artificial when compared with the small-groups social environments in which humans evolved. In artificial environments it is possible for individuals to consistently behave in maladaptive ways, i.e., in ways that do not promote the reproduction of their genes. Examples are easy to find, and include the large death tolls of soldiers and civilians in

industrialized warfare and the disability and mortality resulting from drug addiction. In today's world, indoctrinability for patriotism¹⁵ can in principle pay-off genetically, but the predisposition to ethnocentrism is a far less secure guide to genetic interests than in the environment of evolutionary adaptedness.¹⁶

The related theoretical issue to be considered in the symposium is whether evolved mechanisms of ethnocentrism are successfully circumvented by existing welfare institutions.

Consider the case of the United States. The failure of the Clinton initiative on health care to reverse the continued decay of the United States' public health system¹⁷ and the general weakness of American welfare rights stand in sharp contrast to mature European comprehensive welfare systems which, despite recent pressures, are still supported by great majorities in those societies. Political scientist, M. Gilens, has found that in the United States, cross-racial transfers are a major point of resistance to taxation to support means-tested welfare payments.¹⁸ Gilens' survey-based analysis confirms the thesis advanced by political theorists that racial divisions in the United States have distorted and subverted attempts to construct a European-style welfare state.¹⁹ Extensive welfare rights emerged from political struggles and decisions made within ethnically homogeneous states such as France, Germany and Sweden.²⁰ Given the shifting ethnic and racial balance in Western societies, a relevant question now is whether the decline of homogeneity will spell the curtailment of those rights. Emerging research findings indicate this to be a likely outcome. A comparison by sociologist T. Faist²¹ of US and German welfare politics finds that nationalist-populist reaction to large-scale immigration has led to the polarization of views towards welfare along ethnic and racial lines, and has contributed to the decline of welfare expenditure in both countries. Ethnic and racial diversity present opportunities for nationalist-populist politicians who would deny welfare rights to out-groups. The same diversity appears to be an obstacle for cosmopolitan-liberal politicians who seek a more inclusive and generous welfare system, Faist argues. Further evidence in this direction comes from economic research. A recent multi-city study of municipal spending in the United States analysed the correlation of ethnic diversity with per capita spending on public goods, including education, roads, sewers, libraries, rubbish removal, and welfare. Economists Alesina, Baqir and Easterly²² found that the more ethnically or racially diverse cities spent a smaller proportion of their budgets and less per capita on public goods than did the more homogeneous cities. Poterba²³ finds that public spending on education is particularly low in districts where the elderly residents are from a different racial group from the school-age population. These results parallel the finding made by Brown²⁴ and Hero and Tolbert²⁵ that states' per capita expenditure on Medicaid generally declines as racial diversity increases. Hero and Tolbert also analysed the voting patterns by race and ethnicity in

the 1994 referendum in which Californians voted on Proposition 187, that social services to illegal immigrants be restricted. They found that minority diversity accounted for about 40 per cent of the between-county variation in support for the proposition, such that support increased in tandem with the degree of racial diversity. Also germane to the present discussion was the simultaneous vote held on the proposed 'single-payer' health plan, that would have directly benefited minorities who are over-represented in the lower socio-economic strata. Hero and Tolbert found a correlation of -0.87 between the two votes.

The negative relation between racial diversity and public contributions to public goods might be a more tenacious version of the problem faced by emerging polities, that of inducing families and clans to extend their loyalty to the civic sphere.²⁶ Indeed, Easterly and Levine²⁷ have found that ethnic diversity in Africa is a major predictor of low public investment in such public goods as schooling and infrastructure. (Hama²⁸ finds that spending on police and welfare is correlated with racial diversity across 77 US cities. For the purpose of testing Easterly and Levine's and Gilens' results, Hama's study suffers by not distinguishing federal, state and city origins of spending on public goods.²⁹)

Are there fundamental problems in mobilizing support for comprehensive welfare systems in ethnically, and especially racially, diverse societies such as the United States? Can these problems be circumvented by new institutional techniques? Is it just a matter of indoctrinating citizens to be culture- and colour-blind, or is human nature more resistant to manipulation? Even if citizens can be manipulated to contribute to public goods in multi-ethnic societies, an ethical question remains. If the result of such manipulation is a win-win outcome, the manipulation could be viewed as enlightened public policy. However, if the result is to depress the manipulated group's fitness, the process could be viewed as aggressive deception. These scientific and ethical questions have considerable significance for public policy given the large number of multi-ethnic states. Since the evolutionary approach works with universals, it is a promising basis for developing principles able to be applied in any setting.

The planned symposium will address several related questions that can be advanced by an interdisciplinary approach. The main four questions are:

1. Does ethnic diversity, in fact, tend to depress contributions to public goods such as welfare, and if so, under which conditions?
2. Does ethnic diversity affect economic growth, an important form of welfare?
3. Can evolutionary theory contribute to our understanding and prediction of any such effects? and
4. Which policy implications should be drawn? This entails the ethical question of the propriety of policies that guide people towards or away from favouring the interests of their ethnic groups.

THE MEETING

A distinguished group of scholars from several disciplines attended the symposium described in the opening paragraph. Participants included professors Eibl-Eibesfeldt and van den Berghe, the two theorists who originated Ethnic Nepotism Theory. The scholars' answers to the symposium questions are set out in the following chapters, briefly summarized at the end of this chapter. Suffice it to say that the target paper's hypothesis was largely confirmed (that ethnic diversity is a significant factor influencing welfare policy), some surprising findings were made, and instructive debate joined on issues of data, theory, and policy. In the following section, I discuss further data and theory relevant to the target paper's hypothesis, which put it in broader perspective.

ADDITIONAL DATA AND THEORY

Additional Data

Since writing the target paper, new studies have come to light that support the hypothesis as well as older studies that were overlooked. Cross-national economic analyses indicate that not only welfare expenditure but also the size of government is positively correlated with the degree of ethnic homogeneity.³⁰ This trend is most pronounced in democratic states, where citizens have a say in shaping government. These analyses also show that, contrary to conventional economic theory, the combination of larger size of government, ethnic homogeneity and small national size can be a significant economic asset. The authors argue that as democracy spreads, large ethnically and geographically diverse (multicultural) states fragment through secession. In other words, given the freedom to choose, people opt for independent ethnic states, resulting in the proliferation of countries. The authors propose greater decentralization of government as the best means to counter this trend. They do not explain why it is necessary to oppose democratic choice that yields a stronger economy and more generous welfare rights.

Additional Evolutionary Theory

Rushton's 1989³¹ paper on the 'Genetic Similarity Theory' (GST) made an important contribution to the evolutionary understanding of ethnic solidarity that should have been discussed in the original target paper.³² The theory helps explain how ethnic nepotism could have evolved despite the risk of selfish free-riders who benefit from ethnic altruism but do not share the altruist's genes. Without a mechanism for discriminating free-riders, ethnic nepotism would have been weeded out of the gene pool over evolutionary

time and replaced by selfish behaviour. Rushton's solution to this theoretical problem begins with the replicated finding that individuals prefer to befriend, trust and marry others who are similar in various characteristics. Partners are most similar on socio-demographic variables of age, race and religion, followed by attitudes and opinions, IQ, physical characteristics, and finally, personality. Rushton argues that choosiness-by-similarity is an evolved trait for directing altruism towards genetically similar individuals, thus mitigating the free-rider risk. Indeed, several studies reviewed by Rushton or conducted by him and his colleagues indicate some genetic similarity between spouses, sexual partners, and friends. Assortative affiliation cued by genetic similarity results in ethnic nepotism, but is not synonymous with it because discrimination also occurs within ethnic groups, not only between them, which it must do if it is to exclude co-ethnic free-riders. Rushton concludes that ethnocentrism is an evolved strategy for promoting the replication of copies of an individual's genes carried by non-kin. GST is more fine-grained than ethnic nepotism theory. For example, GST predicts cross-ethnic affiliation based on individual similarity, while ethnic nepotism theory requires enculturation to explain this phenomenon. Also, GST helps explain how humans could have evolved to treat their tribes and, in recent centuries, million-sized ethnic groups, as extended families despite the risk of free-riders.

Cultural evolution may also have mitigated free-riders and thus facilitated the evolution of ethnic nepotism. Social control through mutual monitoring is nowhere more pervasive than in small-scale societies in which humans evolved.³³ Monitoring and punishment of free-riders can, theoretically, allow the evolution of behaviour that benefits the group, because it prevents free-riders from increasing their reproductive fitness at the expense of altruists. Humans are an intelligent species with the ability to experiment with lifestyles.³⁴ When a social experiment pays off reproductively, it is likely to become more common due to an expanding lineage and through emulation. Such 'cultural group strategies'³⁵ have become a major influence on the social environment, and probably have had significant selection effects of their own, selecting for tribal altruism. They may also have selected for a special-purpose cognitive competence that distinguishes lineages such as ethnicities and races from other types of social groups.³⁶

The Need for an Explicit Micro-Macro Link

A weakness of the target paper is that it assumed, without analysis, that welfare depends on altruistic motivation towards recipients on the part of voting taxpayers. This might be taken to suggest that altruism is the sole cause of welfare: a most unlikely proposition. Indeed, there is evidence that the most powerful impetus to the welfare state was not middle-class largesse but working-class votes. Bismarck's introduction of welfare to Germany in the 1870s was designed to undermine the working-class base of the Reichstag

socialists.³⁷ Also, Esping-Andersen's comparison of the development of three types of welfare states in Northern Europe (socialist), Central Europe (conservative), and English-speaking societies (liberal - United States, United Kingdom, Australia) indicates that working-class electoral and union strength puts social democratic parties in government. These governments then serve the economic interests of their constituents by redistributing wealth.³⁸ Economic conditions should also be expected to affect the level of welfare altruism. In times of plenty, with near-full employment and high wages, the majority ethnic group can be expected to be more relaxed about the destination of its welfare taxes than in hard times.

There are undoubtedly many causes of cross-national differences in welfare provisions. Is this a basis for rejecting ethnicity as one causal factor among others? Affirmative answers tend to rely on particular cases and seek one exclusive cause for each case. For example: '... [R]eduction of welfare state expenditures is a public policy related to the fiscal discipline imposed by the EU with the introduction of the euro (as in Germany) or associated with "libertarian" ideology (as in the USA).'³⁹ Gilens⁴⁰ argues from survey data and content analysis of American television over the last few decades that the reluctance of white taxpayers to fund welfare for blacks is due to media bias. Gilens finds that blacks have been over-represented in depictions of poor people in US television reports, and makes the plausible case that without this bias the issue of welfare would not have become so racialized. Hence, white discriminatory behaviour is imposed from the outside and is not at all intrinsic to human nature. He does not deny that blacks are indeed over-represented among welfare categories such as unemployed and single mothers, and entertains no other factors as underlying welfare attitudes.

There might be some truth to Gilens' hypothesis, or there might not. Greater confidence would be warranted if alternate possible causes had been considered. Also, correlation does not demonstrate causality. The few positive fits supporting Gilens' contention are weak evidence of a causal relationship. It is possible that the media, generally liberal in orientation,⁴¹ have managed to reduce hostility to black welfare recipients from what it would have been in the circumstances. Arguably, the emphasis on black poverty was an expression of sympathy for blacks intended to further their political and economic condition. It is not at all obvious that depictions of a category in poverty will produce negative attitudes towards it. Does the Red Cross's use of pictures of poor Third Worlders harden attitudes towards them, or do such images in fact elicit donations? This issue requires much more investigation before firm conclusions can be reached.

Gilens' causal analysis would have been more convincing if he had compared the United States with other welfare states. Does the cross-cultural negative correlation between multi-ethnicity and welfare correspond to negative media portrayals of minorities? If not, what causes that negative correlation? Gilens does not put his media analysis in a broader context even

within the United States. For example, he does not consider positive images of blacks on television. During the 1960s, 1970s, and 1980s, the period emphasized by Gilens, the image of blacks in television drama and comedies greatly improved. They were depicted as scientists, technical experts, intelligence agents and running well-adjusted middle-class families. The number of black news readers also rose during this period. Gilens⁴² summarizes research on the prevalence of blacks on US prime-time television in 1997, focusing on dramas and situation comedies. Despite being less than 13 per cent of the population, blacks were 25 per cent of all characters and 27 per cent of major characters. The question is not raised whether these characters were portrayed positively, yet this is essential for comparing negative and positive portrayals.

While Gilens' interpretations are questionable, the survey he has conducted offers useful data on white attitudes to black welfare. These data fit the cross-cultural ethological model set out in this chapter and generally confirmed, cross-culturally, in this volume.

Any number of plausible non-ethnic factors can be hypothesized to underlie welfare, including economic and ideological change; some of these factors will have general effects. For example, poor countries can be expected to provide less welfare than rich ones. Similarly, as noted above, societies with poorly organized labour movements are likely to provide less welfare than those with strong trade unions. However, such explanations of welfare policy, by themselves, do not conflict with the data reported in this volume. Those data are quite compatible with multiple causes of welfare state expenditure, because the correlations between heterogeneity and decline in welfare are far below 100 per cent. On the other hand, these non-ethnic factors do not tell the whole story. They are unable to account for the correlations found between ethnic heterogeneity and various measures of public altruism as reviewed above. This book's chapters contribute to this growing evidence, both cross-nationally, as presented in Vanhanen's and Sanderson's chapters and intra-nationally, as presented in the chapters by Butovskaya et al. and by Schubert and Tweed. The fiscal discipline imposed on Germany by the euro cannot explain the general world-wide correlation found between ethnic diversity and welfare expenditure. It cannot explain why Bismarck, a wealthy landowner, sincerely believed in social welfare in addition to using it as an electoral tool. Nor can libertarian ideology begin to explain the correlations between diversity and welfare found within the United States, or the ethnic nepotism shown towards beggars in Moscow. Any attempt to deny ethnic diversity as a significant cause of these inter- and intra-national correlations must offer an alternate general theory for these multiple and widespread relationships. The findings reported in this book strongly indicate that ethnic diversity plays a general and significant role, among other factors, in depressing welfare expenditure as an expression of public altruism.

I should add that even if union strength or ideology or any other factor accounted for all the cross-national variance in welfare, there would still be room for an ethnic altruism effect if these factors themselves were found to correlate with ethnic homogeneity. Degree of ethnic homogeneity might facilitate solidarity of union activists and forge cross-class alliances of welfare supporters, thereby indirectly influencing welfare policy. A recent survey of 30,000 Americans across 40 communities⁴³ finds that ethnic diversity is a major depressor of social capital, including friendly contacts across class lines and giving and volunteering. Putnam,⁴⁴ the leader of the survey project, argues that the precipitous decline in American union membership is an indicator of declining civic capital.

Altruistic motives are evident in the rise of rational welfare policies in early Victorian England. Welfare reform was the outcome of a contest between three sets of reformers – charitable upper-class patricians, utilitarian technocrats who were also paternalistically minded but who believed in scientific methods, and social reformers such as the Chartists who accepted technocratic administration but rejected paternalism in favour of greater equality and democracy.⁴⁵ As Esping-Anderson⁴⁶ predicts, some of these social reformers were motivated by self-interest. Often survival was at stake in the early stages of the industrial revolution, with the newly urbanized poor housed in filthy slums and employed in death-trap factories. But there was also a clear altruistic component in aristocratic attempts to aid the poor, and the Chartists were joined by middle-class factory reformers and physicians in agitating for improved sanitation and nutrition for the new urban working class. These upper-class welfare activists, some agitating for fundamental social change, appear to have been motivated by altruism rather than self-interest.

There is positive evidence of the role of altruism in welfare politics. Resemblances between welfare rhetoric and charity advertisements indicate an important role for altruistic motives, at least in legitimizing welfare rights. A cursory examination of the promotional literature put out by such charities as the Red Cross shows that begging-releasers in the form of pictures and verbal descriptions appear frequently and with little, or no, modification. The same appears to apply to the rhetoric used by politicians to win over voters to welfare policies. Frequent reference is made by welfare politicians to the demographic categories of the very young and old, the sick, as well as the needy. Single mothers attract a good deal of sympathy. When politicians urge more generous welfare spending, they are likely to claim that Americans constitute one big family.⁴⁷ A systematic survey of welfare rhetoric remains to be done, but the familial character of that rhetoric has been remarked and is plausible.

The target paper failed to distinguish redistributive and non-redistributive welfare, as pointed out in Sanderson's and Vanhanen's joint chapter. Social security schemes limit their redistributive effects within income categories,

and thus tend to avoid net transfers between ethnic groups; but cash benefits that differentially go to one or more ethnic groups in democratic, transparent welfare systems are sensitive to prevailing levels of public altruism.

THE SYMPOSIUM CONTENT AND RELEVANCE

The volume makes three main contributions:

1. It provides generally consistent evidence of the depressing effect of ethnic diversity on welfare.
2. It provides an evolutionary frame for interpreting these data.
3. It advances ideas about how the findings are relevant to policy and political theory.

The symposium illuminates several empirical and theoretical issues at the nexus of welfare and ethnicity, and suggests new lines of investigation. The volume presents nine empirical studies. Five deal with how ethnic diversity affects welfare provisions, two concern the related subject of cross-ethnic charitableness, and two report effects of kinship and group identity on altruism in primates and early hominid societies. Three of the studies are cross-national, four are national or city case studies (two of the US, one of Canada, one of Moscow), and two are cross-species analyses.

There are two cross-national studies of welfare and heterogeneity. Sanderson's cross-national study of redistributive welfare and ethnic heterogeneity covers 42 countries distributed across all continents. He finds that ethnic diversity is a major correlate of low redistributive welfare. Only organized labour, democracy, and national wealth explain more or comparable between-country variance. Vanhanen's multinational study looks at all welfare taken together, including redistributive and non-redistributive. He finds a lower, but statistically significant, negative effect of diversity on welfare payment. Sanderson and Vanhanen explain how differences arose between their findings in a joint chapter.

Schubert and Tweed's study of donations to the United States' largest charity, the United Way, confirms the growing number of studies within the United States that find a depressing effect of ethnic diversity on public altruism. A similar result is obtained by a field study of street beggars in Moscow conducted by Butovskaya, Salter, Diakonov, and Smirnov. People give more to beggars from their own ethnic group. The effect is so strong that Gypsies, a recognizable out-group, resort to more extreme and less dignified methods of begging than are typically employed by ethnic Russians, nevertheless, the Gypsies achieve poorer results.

James' chapter appears on the surface to disconfirm the target hypothesis. He documents the higher welfare payments made by the Canadian federal government to Quebec, a province identified with the French-speaking

minority population. Does this mean that English-speaking Canadians show greater altruism towards their French-speaking fellow citizens than towards their own language group? Hardly. As James points out, a minority's geographical concentration creates a special condition because such minorities are better able to seek and secure independence. Schiff¹⁸ makes the same point regarding the Ivory Coast, which pays special benefits to an independence-minded province. Both James and Schiff argue that the special payments to secessionist minorities amount to an attempt by the majority group, or its élites, to buy territorial unity. Minority leaders can be aware of the terms of this arrangement and exploit it to maximize revenues for their people. Consider this report of remarks made by Quebec leader, Parizeau, in 1998.

'As long as we're in Canada, we'll go get our booty,' Mr Parizeau said yesterday at a speech in Hull to which the media were not invited. 'And sovereigntist premiers have better success than federalist premiers in grabbing money from Ottawa.'¹⁹

The same principle might apply to the large-scale redistribution practised within the European Union, where the wealthy core members of France, and especially Germany, subsidize poorer members – a sort of international welfare. The resentment felt by many German taxpayers was, until 1998, more than balanced by the political commitment of leaders such as Helmut Kohl and the industrial élite to keep Germany integrated both politically and economically with its neighbours, as a means of building European unity and increasing the market for German manufactured goods, respectively.

Roger Masters' chapter is important because it offers the only empirical disconfirmation of the target paper in this volume, indeed the only one of which I am aware. One stubborn fact is enough to disprove a theory, and for this reason I devote some space to Masters' results. Masters compares the provision of some public goods at the county level in the United States with the proportion of the local population comprised of blacks and Hispanics. He finds that the number of public sewers per capita is not negatively correlated with the proportion of Hispanics, disconfirming the target hypothesis. However, there is a negative correlation for blacks, in agreement with the hypothesis. More importantly, the proportion of both blacks and Hispanics in counties does correlate with lower per capita welfare payments, confirming the target hypothesis.⁵⁰

There is a good reason to treat the welfare correlations as more telling for the target hypothesis than the number of sewers per capita. Sanderson, in this volume, finds that redistributive welfare, such as cash payments to single mothers, are more sensitive to ethnic diversity than are genuine public goods such as sewers and water supply, which are difficult to subdivide because they prevent disease, thus benefiting all taxpayers. Provision of police, which Masters also analysed, is especially problematic in this respect, because it is

simultaneously a public good for one part of society – those with property, for example – and a means of social control against other segments – such as the poor, especially those who supplement income with illegal activity. Hama's comparison of 77 US cities, discussed earlier in the chapter, finds that expenditure on police increases with the black proportion of cities, contradicting Masters' finding. This is unlikely to be an expression of growing public altruism. Rather, it is probably a response to relatively high black crime rates, at least in jurisdictions with a large middle-class population (of any race) able to pay for protection. Police expenditures can be seen as pure public goods within multi-ethnic societies where all groups have approximately the same levels of wealth and criminality. Otherwise, care should be taken to distinguish this motive from that of social control by one group over another.

R. Masters' analysis contains several conceptual differences with my target chapter: differences worth exploring. For example, he has a different conception of ethnicity from that found in Ethnic Nepotism Theory. He denies that ethnic groups are 'entities at a level defined by contemporary evolutionary biology'. Ethnic groups are 'rationalizations for a desire to restrict social co-operation' and ethnic boundaries are 'constantly changing', indicating that they can be constructed to suit individual goals. This is thorough-going instrumentalism that allows no place for the primordial components of ethnicity, discussed in length in Chapter 8.⁵¹

Welfare can be more broadly defined to include income from jobs and government sources. What effect does ethnic diversity have on economic growth and hence on overall standard of living? W. Masters and McMillan compare economic growth and ethnic diversity in a broad cross-national sample, and find a non-linear relationship. Rising diversity is correlated with increasingly depressed economic growth except for countries with high income levels. In a special chapter commentary, I put Masters and McMillan's findings in broader economic, sociological, and demographic perspective, noting that Easterly and Levine⁵² and Sanderson (this volume) confirm the negative relationship between heterogeneity and economic growth. Are rich economies immune to the depressing effect of ethnic diversity, or are they growing rapidly despite the economic load of diversity? It is possible that the economic success of fast-growing economies *causes* diversity (rather than vice versa) by attracting immigrants from the developing world. Masters and McMillan also find that population size tends to compensate for diversity, since economic growth rises with size of market. Within this important study, Masters and McMillan add a fascinating cross-national analysis of foreign aid payments for the period 1962–1992, finding that ethnic diversity has a depressing effect. They find that one measure of ethnic diversity alone accounts for 80 per cent of the between-country variance in foreign aid, controlling for income and government size. Ethnic diversity may impede co-operation for all national goals requiring broad consensus.

Non-human and tribal precursors of welfare and kin altruism are described in two papers. In a fascinating report on meat sharing in wild chimpanzees, Linda Marchant shows some of the continuities and differences between humans and their primate cousins. As with humans, kin are given special preference when sharing valuable resources, but this applies mainly to female chimpanzees. Males share with sex partners and male allies. Johan van der Dennen reviews the large literature on co-operation, loyalty and proto-ethnocentrism, discussing how and why loyalty structures and group identification (proto-ethnocentrism) evolve in the context of inter-group agonistic behaviour and male versus female transfer in primates, social carnivores, dolphins, and early hominids; all social and 'brainy' species. He concludes that group identity processes are widespread and adaptive, or were so during evolutionary history. These processes allow individuals to discriminate between in-group and out-groups, and to treat in-group members preferentially in reciprocal, altruistic interactions that provide protection, nepotism, and sharing of resources.

What are the policy implications? Here, the discussion is no less vigorous than on the empirical front. The range of alternatives discussed includes multiculturalism at the state and international levels, assimilation, secession, ethnic federalism, the Swiss model, the European Union model, affirmative action (group rights) and strict individualist welfare. Van den Berghe criticizes affirmative action and advocates policies that focus on the individual as a means of softening group boundaries. Eibl-Eibesfeldt discusses the advantages of multiculturalism at the international level over intra-state multiculturalism. I conclude the volume by discussing some of the implications of the symposium's finding for the political theory of welfare and ethnicity. The chapter documents the absence of evolutionary concepts in the work of leading theorists such as David Miller, Michael Walzer, and Bill Jordan.

NOTES

1. For example, the Sierra Club in the United States, whose mission is nature conservation, has no policy on immigration (S. Sailer, 19 January 2001, United Press International), even though large-scale immigration is a major contributor to the United States' rapid population growth and its projected doubling of the population by the year 2100 (Table NP-T4-H, 'Projections of the total resident population by 5-year age groups, race, and Hispanic origin with special age categories: Middle series, 1075 to 2100', US Census Bureau homepage, at <http://www.census.gov/population/www/projections/popproj.html>, downloaded May 2001). The German Green Party (Alliance 90/The Greens) has environment protection as its central plank as well as broad Left concern for redistribution and social welfare, yet agitates for large-scale continuous immigration to one of the world's most densely populated countries (*Frankfurter Allgemeine*, 15 March 2001, p. 1; see further discussion in ch. 15). Such policies would be difficult to reconcile with these groups' core ideals if it were

- known that immigration feeds inequality and undermines welfare, in addition to putting added pressure on the environment.
2. F.F. Piven and R.A. Cloward, *Regulating the Poor: The Functions of Public Welfare* (New York: Vintage, 1993/1971).
 3. For example, P. van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, 1981); J.T. Landa, *Trust, Ethnicity, and Identity. Beyond Trading Networks, Contract Law, and Gift-Exchange* (Ann Arbor: Michigan University Press, 1994). R.P. Shaw and Y. Wong, *Genetic Seeds of Warfare: Evolution, Nationalism, and Patriotism* (London: Unwin Hyman, 1989); and T. Vanhanen, *Politics of Ethnic Nepotism: India as an Example* (New Delhi: Sterling, 1991).
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 18. M. Gilens, "'Race Coding" and White Opposition to Welfare', *American Political Science Review*, 90, 3 (1996), pp. 593–604, reports survey results indicating the limitations of theories based on economic self-interest and individualism in explaining white American opposition to welfare:

[T]he influence of racial views on welfare support is even stronger than the effect of views about the poor in general. Remarkably, whites' perceptions of blacks as lazy appear more important in shaping opposition to welfare than do their perceptions of poor people as lazy. ... Although 63% of current welfare recipients are non-black, beliefs about blacks appear to dominate whites' thinking when it comes to evaluating welfare. (p. 598)

- The hypothesis of ethnic nepotism as a motive for white resistance to welfare taxation is supported by these figures, since African-Americans are about 12 per cent of the US population but 37 per cent of the welfare recipients. By contrast, blacks should be expected to support such taxation for the same motive, since funds go disproportionately to their own group.
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 21. '[T]he current ethnicization and racialization of European welfare states indicate that ethnic heterogeneity will probably be accompanied by further diminution of redistributive and regulatory activities of welfare states', (Faist, 'Ethnicization', p. 245). Faist was pre-empted in this analysis by Freeman, who analysed the 'Americanization of European welfare' due to large-scale immigration. See G.P. Freeman, 'Migration and the Political Economy of the Welfare State', *The Annals of the American Academy (AAPSS)*, 485 (May 1986), pp. 51–63.

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29. Hama (ibid.) finds that across 77 US cities of population greater than 200,000, taxation increases with the black percentage, as does spending on police, and welfare; but he does not distinguish welfare spending originating with the federal government from locally derived welfare. Also, police do not fall unambiguously into the welfare category since they are an instrument of social control as well as protection. Thus the study does not contradict Easterly and Levine's ('Africa's Growth Tragedy') or Gilens' ('Race Coding') findings.
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48. M. Schiff, 'Ethnic Divisions and Economic Reform in Sub-Sahara Africa', *Journal of African Economies*, 7, 3 (1998), pp. 348-62.
49. *Ottawa Citizen*, 26 November 1998, p. A1.
50. Other points made by R. Masters intended as criticisms of the 'Target Paper's hypothesis are in fact consistent with it. I agree that many factors other than ethnicity come into play in determining welfare levels, but that hardly detracts from the 'Target Paper's hypothesis. For example, as Masters suggests, the percentage of poor whites might well have a stronger depressing effect on welfare than the percentage of poor from other groups, but not because of reduced altruism. The more likely reason is that whites are the main taxpayers and lower white income lowers aggregate tax revenues at the county level. A simple way to test for this would be to check the correlation between the percentage of poor whites and county tax revenues. I note that Masters does not discuss the methods or findings of Alesina *et al.* ('Public Goods and Ethnic Divisions'), whose results on public goods at the city level strongly support the Target Paper (where I discuss their findings). A comparison of the two methodologies and an explanation for the contrasting findings would help resolve the contradictory results. The results of Alesina *et al.* are supported by both Vanhanen's and Sanderson's analyses in this volume based on cross-national designs.
51. In Chapter 8, pp. 148, 153-4, I comment on W. Masters' and McMillan's instrumentalist approach to ethnicity.
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Part I

Does Ethnic Heterogeneity Depress Public Altruism in Multi-Ethnic Societies?

Urban Begging and Ethnic Nepotism in Russia: An Ethological Pilot Study

Marina Butovskaya, Frank Kemp Salter, Ivan Diakonov and Alexey Smirnov

ABSTRACT

Ethnic nepotism theory predicts that even in times of communal peace, altruism is more pronounced within, than between, ethnic groups. It was hypothesized that altruism in the form of alms-giving would be greater within than between ethnic groups, and greater between more closely related groups than between more distant groups. The three groups chosen for study were ethnic Russians, Moldavians, and Gypsies. Russians are genetically closer to Moldavians than to Gypsies. Observations were made of 128 ethnic Russian, 25 Moldavian, and 25 Gypsy beggars receiving gifts from ethnic Russians in Moscow trains. The Gypsies were mainly girls, unlike the Russian sample. Multivariate analysis identified three main strategies: active, personified and appeasing-undirected. Russian strategies were most variable. Gypsies presented strong charity releasers: 84 per cent were children who played music and sang and showed appeasing-undirected behaviour. The few adults were highly submissive or friendly. Nevertheless, their success was limited compared with ethnic Russians despite the latter's demanding behaviour and their being mostly mature or elderly persons. Moldavians received an intermediate amount of charity. The hypothesis was supported.

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assistance in collating videos and photographs at the Max Planck Ethological Film Archive in Andechs, Germany. Finally, we received suggestions from two anonymous reviewers of the original version of this paper that led to improvements, for which we are grateful.

INTRODUCTION

Ethnic nepotism theory offers fresh insights into aspects of ethnically diverse societies. Ethnic groups are conceptualized as large, attenuated families by both van den Berghe,¹ who coined the term 'Ethnic Nepotism', and Eibl-Eibesfeldt², who initially developed aspects of the theory within an ethological frame. In their view, an ethnic group is like a family not only because its members share some characteristic genes derived from common descent, but at the motivational, subjective level because group members perceive this common descent and feel and act like a family. Members tend to feel nepotistically about their descent groups, directing familial-type altruism towards them. According to the theory, both the intra-group affiliation and inter-group antagonism that mark ethnic affairs are motivated by nepotistic feelings. The theory is pitched at the ultimate level of causation, attempting to elucidate a causal chain running from natural selection of genetically based predispositions to proximate mechanisms of behaviour, including economic behaviour. Sociobiological theory is still not widely accepted in the social sciences, though there is much background evidence in support of this particular theory. Numerous studies in anthropology and psychology, conducted in many societies, indicate that humans have an innate propensity to differentiate between in-group and out-group members and display more altruism to compatriots. Anthropologists have documented the centrality of kinship to social life in all observed cultures.³ Kinship terms appear more frequently in patriotic rhetoric than in rhetoric devoted to other issues.⁴ A case study of Chinese ethnic middlemen in Malaysia by Landa⁵ found a series of seven nested grades of altruism and trust, being most intense within nuclear families, followed by more distant kin, clansmen, and being weakest between Chinese in general and finally non-Chinese.

Experiments conducted by the developmental psychologist Hirschfeld⁶ indicate that humans have a specialized cognitive competence for distinguishing descent groups from other human kinds. This innate competence resembles Chomsky's species-typical innate grammar that allows children to acquire language rapidly. Just as human nature includes an evolved affinity for language there is a common set of abstract principles underlying all systems of ethnic thinking, independent of historical and cultural contingencies. Ethnic awareness is thus not a pure social construct. In addition, ethnic nepotism theory is compatible with social identity theory,⁷ which in turn is amenable to an evolutionary interpretation.⁸ Humans have a

pronounced tendency to identify with groups, including non-kin groups, which they then positively evaluate, while negatively evaluating out-groups. In the evolutionary past, the main non-kin groups were the band and the tribe, the proto-ethnic group, which provided the basis for most co-operative relationships and mutual defence against competing groups. Belonging to these groups was necessary for survival and reproduction, selecting for the predisposition to identify with and show differential altruism towards ethnic and other groups. Ethnic nepotism theory adds to this account the prediction that other factors being equal (e.g. religious or ideological indoctrination), ethnic altruism will be stronger than non-ethnic altruism, and that altruism between closely related groups will be stronger than altruism between more distantly related groups. Ethnic nepotism theory suggests that ethnic diversity in urban settings will tend to have an adverse effect on public altruism, specifically the willingness to share resources across groups.

A frequent problem in ethnically diverse societies is ethnic socio-economic stratification, such that members of one ethnic group pay taxes disproportionately, while beneficiaries are disproportionately drawn from poorer groups, as in the United States.⁹ Evidence is accumulating in economics¹⁰ and political science¹¹ that ethnic diversity tends to depress taxpayers' willingness to fund redistributive welfare. In developing countries, ethnic diversity is a major predictor of low investment in education systems and other infrastructure.¹² In short, ethnic diversity seems to inhibit public altruism.

While ethnic nepotism theory offers a plausible account of these macro social phenomena, the theory has not yet been verified at the micro-level of face-to-face altruism in analogous situations of public altruism in anonymous societies. Interpretation using this theory at the macro-level would be more convincing if it were established that people are in fact willing to give more to strangers of their own ethnic group than to strangers of out-groups, since this is analogous to paying taxes that are known to go differentially to out-group recipients. Conversely, the ethnic nepotism theory of macro phenomena will be difficult to sustain if it cannot explain analogous micro behaviours.

Ethnic nepotism theory is most plausible in times of intense inter-communal conflict, including war. In such extreme circumstances, many individuals grossly discriminate in their public altruism, risking their own lives in defence of the in-group while shunning or attacking out-group members. However, most societies are not at this high pitch of communal strife, and if ethnic nepotism theory is to explain large-scale trends in politics and economics, it must predict low-intensity discrimination occurring in peaceful times. The criteria meeting this condition are that interacting groups have distinct ethnic identities, that genetic and/or cultural distance is significant, and that inter-group antagonism is moderate. Street beggars belonging to ethnic minorities meet these criteria.

The objective of the present pilot study is to use ethological methods to test the hypothesis that, in accordance with ethnic nepotism theory, people

give more to beggars belonging to their own ethnic group than to other beggars, and more to beggars from closely related groups than to distantly related ones.¹³ This is not to suggest that altruism is the only motive for giving to beggars. There are many possible causes, including shame, religion, and conformity. However, most of these factors can be expected to increase giving across group boundaries, thus lowering the statistical salience of ethnic nepotism. Shame at ego's wealth compared with beggars' poverty will tend to increase giving to poor people in general, regardless of ethnicity. Likewise, the major religious tradition in Russia is the Orthodox Church; a universalistic creed that prescribes charity to all in need regardless of group membership. Conformity can be expected to reinforce any trend in alms-giving. If these motivations for giving leave any measurable effect to ethnic nepotism, then the latter will be indicated to be a significant factor.

Sharing resources with beggars is not evolutionarily novel. Even sharing food with unfamiliar people may be regarded as an extreme form of altruism rooted in early hominid sociality. Its rudimentary forms are practised by chimpanzees and even capuchin monkeys, who share food and other attractive items with conspecifics, especially from mother to offspring, in response to begging.¹⁴ Food sharing among family members is a widespread phenomenon in many species of New World monkeys, *Saguinus oedipus* and *Leontopithecus rosalia* being examples.¹⁵

In ethological theory, altruism is *released* by symbols and behaviours.¹⁶ The motivation to help others is not produced by these symbols and behaviours, but is already present, able to be evoked. The releaser concept distinguishes ethological theory from behavioural (reinforcement) theory, and by extension distinguishes ethology from theories of social construction that ignore human nature. Releasers are severely constrained in the shape and form they can take, by the fact that they must key into the human perceptual and motivational systems evolved for the support of kin or other group members. The description and comparison of releasers used by beggars was thus an integral part of the research reported in this paper.

Salter¹⁷ offered a preliminary classification of begging tactics as a contribution to assembling an ethogram, or behavioural repertoire of begging. Based on photographic and video pictures and verbal descriptions of beggars collected in several cultures, as well as a review of the begging literature, Salter found certain demographic categories and behaviours to be prevalent. The very young and old were over represented. Babies appeared to be especially powerful releasers, as emphasized by the literature on begging (see below). Injuries and handicaps also appear to be powerful releasers of charitable motivation. Beggars were usually of sad or neutral demeanour, and were often lower than passers-by, kneeling or even lying. Beggars were usually static, and displayed or called out a request for money, though some approached potential givers. Often a beggar would offer some show of reciprocity to attract gifts, such as by selling a trinket or by playing a musical instrument. Many used

religious symbols, such as crucifixes or simply 'God bless' displayed in a sign that expressed pre-emptive gratitude. A review of the literature on begging indicates that these begging tactics occur cross-culturally.¹⁸

Previous research indicates that charity releasers vary in effectiveness under certain conditions. Some previous research on begging has graded begging tactics by how much money they attract. In an experimental field study, Lockard *et al.*¹⁹ found that in the United States begging was generally successful only when the beggar submissively approached single individuals who were eating. Families and male-female pairs generally did not give. Goldberg²⁰ found that females attract more giving than males from lone male pedestrians, but that male beggars received more from male pedestrians accompanied by females. From an ethological perspective (and from everyday experience), it is to be expected that children and babies will elicit more sympathy than adults, and that injured individuals will be stronger releasers than healthy ones. Walster and Piliavin²¹ report evidence that helping motivation is most powerfully elicited by signs of severe need, such as an emergency, by close physical proximity, and by perceived similarity or emotional attachment to the victim. However, ethnic and kinship factors were not discussed.

The present paper addresses the question of how universal and culture-specific releasers of helping motivation used by beggars are enhanced or depressed in their effect by signs of ethnic identity.²² According to ethological theory, all traditions of begging are drawn from a universal repertoire of begging strategies.²³ Charity releasers based on demographic categories and universal gestures such as the outstretched hand can be distinguished from culture-specific releasers such as religious symbols. The former are found in all cultures and are usually innate, 'phylogenetically adapted' in the evolutionary sense, while the latter are more likely to be culturally evolved and thus usually more variable. Both universal and culture-specific releasers can be deliberately deployed as part of the species' evolved capacity for instrumental social behaviour.

BEGGING IN RUSSIA, FROM PRE-REVOLUTIONARY TO PRESENT TIMES

A brief digression into the history of begging in Russia may provide a better understanding of the modern situation. Prior to the mid-1800s, the official scholarship paid no attention to begging. Karamzin, in his *History of the Russian State*,²⁴ makes not a single mention of beggars. However, they had existed ever since Kiev Rus in the eleventh century and, as time passed, this social stratum became increasingly differentiated. The earliest image of a beggar was closely related to that of a vagrant or pilgrim, that is, a mobile rather than stationary mendicant. Beggars roamed the country and earned money and food by singing and playing string instruments such as the *bandura*

(similar to a mandolin), *kobza* (resembling a guitar), or *gusli* (psaltery). Their repertoire consisted of *dumas* (ballads) and folk tales, and their singing was highly emotional and was often interrupted by sobbing, a universal help-eliciting releaser. As many of them were talented, they attracted a large audience and were frequently hired by noblemen and highly paid. Some eventually collected enough money to set up house and settle down to married life. Originally, most beggars were blind or disabled in some other way. The latter fact may explain why beggars were called *kaliki* in Old Russia (one of the etymologies derives this word from the word *kaleki*, meaning cripples). Beggars were organized in groups, and their social structure was hierarchical, elderly persons being leaders. Their typical attributes were a bag (*suma*), and a crook, and they were considered 'God's people'. A separate category of beggars typical for Moscow Rus (c. 15th century) were *lazars*, whose repertoire differed from that of ordinary beggars and whose singing was especially doleful. Lazars were rather unpopular with the public and were commonly regarded as thieves and swindlers.

After Christianity had been adopted in Russia, destitution and the rejection of property to the glory of God were viewed as virtues, and monks, too, were regarded as beggars. At that time, beggars began collecting alms at the gates of the monasteries. Begging became tightly associated with piety, and the attitude of the church to beggars was very favourable. Pious persons felt a need to make donations in order to save their souls. Donating alms was thought to increase the chance of receiving absolution since 'the holy alms opens the gates of heaven' (*Annals of Russian Literature* 42, p. xxiii). Public attitudes resulted in a dramatic increase of the number of beggars. The chiefs of begging communities recruited children from poor families, sometimes by abduction or enticement. Many children were rented from their parents, and the rent could be as high as one rouble per day (parents of crippled children could even receive double this rate). Children were taught begging practices, the standard sentences being 'could you help me out with some holy alms' or 'could you give me a kopeck for Christ's sake.' The latter formula is still used by present-day beggars.

In the late 1600s, Tsar Fedor decreed that child beggars should be taught various skills and crafts. In the 18th century, Peter the Great launched a state programme for combating begging. From that time on, charity was mostly manifested in orphanages, almshouses, schools for the poor, and workhouses. Peter dreamt of eradicating begging in Russia by providing everyone with means of subsistence.

Begging was not destroyed, however, since it was a time-honoured tradition, on the one hand, and was stimulated by merchants who gained status from philanthropy, on the other. Thus in the late 1700s merchants became the principal factor in the rise of begging, and the custom of donating alms to anyone who asked for it resulted in the emergence of a class of professional beggars. Begging became profitable and was passed on from one

generation to another. A new social stratum had formed: that of beggars by birth.

Notably, stories told by pre-revolutionary beggars were virtually identical with those used nowadays. The most popular ones concerned being injured while defending the homeland, and being in need of money to buy a ticket to one's place of residence, to sustain orphans, or to bury one's mother.²⁵ Some beggars earned their living by peddling ribbons, thread, et cetera, just as they do today.

People who grew up under Soviet socialism were largely unfamiliar with begging. The collapse of socialist regimes in Eastern Europe has caused not only progressive political changes but also a number of adverse consequences, including great economic inequality and a general drop in living standards.²⁶ The fall of the socialist camp resulted in a wave of extremely violent inter-ethnic clashes and the appearance of hundreds of thousands of refugees deprived of any means of subsistence. Eventually, a new social class began to form in large cities, mostly capitals: forced beggars. Many of these 'neophytes' experience a state of deep frustration and are badly in need of a comprehensive welfare system and protective services. The situation in post-socialist countries is aggravated by the fact that people who have resorted to begging are psychologically accustomed to being socially protected.

THE PILOT STUDY

Subjects and Methods of Observation

As vagrancy has a long-standing tradition in Russia and thus may be more acceptable to Russians,²⁷ we focused on vagrants, that is, mobile mendicants, who beg by moving through suburb and metro trains, approaching passengers. Beggars belonging to several ethnic groups were observed, and the effect of ethnicity on the efficiency of begging was assessed with special regard to releasers.

The data were collected from July to November 1998 (Table 2.1). Observations were carried out during daytime between 10.00 a.m. and 4.00 p.m., when train carriages were not overcrowded and most passengers were sitting. Our sample was collected as a series of opportunities, or the 'all occurrence' method;²⁸ that is, data on all beggars met during the observation period were recorded. This method avoids selectivity in collecting data, so that the recorded distribution of age, sex and ethnicity is probably a close approximation of the actual distribution in Moscow and its suburbs.

For each individual, observations were collected using the focal method.²⁹ The observation period lasted two minutes on average with event durations measured in units of ten seconds. Two-minute intervals were used because this was the average time taken by a beggar to pass through the carriage; it

Table 2.1: Ethnicity, Age and Sex of Observed Beggars.

		<i>Children</i> 2 15		<i>Young</i> 16 34		<i>Mature</i> 35 55		<i>Old</i> 56+	
<i>Ethnicity</i>		<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>
Russian	Total	9	19	10	3	22	33	22	10
	Disabled	0	3	8	1	7	21	7	5
Moldavian	Total	3	5	3	1	6	6	1	0
	Disabled	1	0	0	0	2	3	0	0
Gypsy	Total	14	7	0	0	2	1	1	0
	Disabled	0	0	0	0	2	0	0	0

was also the mean interval between two metro stations. The relatively small ten-second units meant that we recorded almost all begging events in succession, yielding a continuous behavioural record.³⁰

An ethogram was elaborated, and several behavioural patterns were pooled into a few classes, depending on the types of releasers shown by beggars (Table 2.2).

Data were analysed using a standard statistical package, SPSS. A number of measures were used: chi squared (χ^2) to test the degree to which our samples deviated in gender, age and ethnicity characteristics from the random model; Spearman rank correlation coefficient (R_s) to assess the extent to which any two normally distributed variables were associated. Multiple linear regression coefficients were used to understand the influence of each type of begging strategy in gaining alms. Thus the number of donors was selected as a dependent variable, whereas all other parameters were defined as independent variables: crossing-blessing; hand-moving; singing-playing; crouching-bowing-nodding; and aggression. In addition, beggars' ethnicity was taken as an independent variable. Principal component analysis was used to detect the main covariations between the various begging strategies.

Subjects and Categories

A total of 178 subjects were observed, including 128 Russians, 25 Gypsies, and 25 Moldavians. Each beggar was observed once only. For the purpose of statistical analysis we assume that Russians, Moldavians and Gypsies can be categorized with ordinal variables, arranged as 1, 2 and 3, representing degrees of genetic similarity. Moldavians are genetically closer to, and Gypsies more distant from, ethnic Russians. This can be inferred from analyses of genetic distances between the world's populations. Gypsies originated in northern India probably in the fourth century, arriving in south-eastern Europe via Persia in the fourteenth century, and have traditionally been a highly endogamous group,³¹ while the remainder of

Table 2.2: Charity-Eliciting Releasers Observed in the Study.

<i>Universal Releasers</i>	
Appearance	Childish appearance
	Disabled (injured, sick, mentally disabled)
Behavioural Patterns	Symbols and equipment of ill and disabled (crutches; wheel chair)
	Elderly appearance
	Cupped hand (stable and moving versions distinguished in Table 2.7)
	Active-sadness
	Crying (included with sadness in Table 2.7)
	Staring (included with aggression in Table 2.7)
	Requesting (included with sadness in Table 2.7)
	Touching (included with sadness in Table 2.7)
	Pulling (included with sadness in Table 2.7)
	Estrangement-motionlessness (called 'estrangement' in Table 2.7)
	Nodding (these last 3 combined in Table 2.7)
	Bowing
	Crouching
<i>Culture-Specific Releasers</i>	
Appearance	Poor clothing
	Military clothes
Behavioural Patterns	Written story about problems
	Religious behaviour (called crossing-blessing in Table 2.7)
	Surface reciprocity (called sing-play in Table 2.7)

European populations are more closely related than they are to Indians.³² Finer-grained comparisons are possible. Romance populations, including Moldavians, are roughly half the genetic distance from Russians as they are from Indians.³³

We did not ask beggars to state their ethnicities because this would have risked observer effects on their behaviour. In addition, beggars' subjective ethnicity is beside the point, since donor giving is based on their appearance. As our hypothesis concerns donors' perception of beggars' ethnicity, we categorized beggars' ethnicity by asking three passengers on the scene for their impressions. We found complete consensus in these judgements across all observational events. Passengers stated that they were well practised at estimating beggars' ethnicity based on appearance – primarily physiognomy, clothing, accent, etc. Russians and Moldavians do not differ much in appearance, but all Moldavian beggars announced at the start of their approach that they were refugees, typically stating their origins in a pronounced accent. However, Gypsies refrained from making such announcements, wore distinctive clothing, and Gypsy children were often barefoot, something never observed among Moldavians and Russians.

Four broad age categories were coded based on appearance: ages 2–15; 16–34; 35–55; and 56 and older (see Table 2.1). Ethnic groups of beggars differed with regard to age ($\chi^2 = 23.39$, $p < 0.001$). While Russians were mostly mature or elderly persons, Gypsies were mostly children (84 per cent). Moldavians were diverse with regard to age and sex, except that there were no elderly persons. The proportion of sexes varied across age categories. In the younger category, Russian children were mostly boys, Gypsies were mostly girls, and the sexes were equally distributed in the Moldavian sample. Among the Russians, there were more females in the second age category (young adult) and more males in the third category (mature); among the elderly persons, there were twice as many women as men (Table 2.1). The proportion of disabled persons of both sexes was significantly higher in Russians (48 per cent) than in Moldavians (29 per cent). Gypsies could not be compared with other ethnics in this case, because only a few adult individuals were observed. Overall, in the Russian sample, the proportion of disabled individuals was 10.7 per cent among children, 62.2 per cent among young people, 50.9 per cent among mature individuals, and 37.5 per cent among the elderly. While 41 per cent of women in the Russian sample were disabled, 59 per cent of the men were disabled. In the Moldavian sample, the percentages were 20 and 43 respectively. All disabled servicemen were Russians.

The efficiency of begging was assessed as low, average, or high, depending on the frequency of donations (none, 1–3, and more than 3, respectively). Ethnicity and sex of donors were registered. A total of 321 donations were observed. The mean donation per beggar was 1.61 ± 1.58 . The maximum number of donations to one beggar was 5. The sex difference in alms giving was significant ($\chi^2 = 31.78$, $p < 0.0001$), with 198 females and only 123 males. The disparity was not due to different numbers of potential givers, since the proportion of females to males in each carriage was close to 1:1. Donors were mostly Russians – 190 females and 94 males (88.5 per cent of the sample) – while 8 female and 29 male donors were from other ethnic groups, being all people of Caucasian and Asian origin (11.5 per cent of all gifts).

The Distribution of Vagrants in Different Types of Trains

Since observations were carried out in metro and suburban trains, it can be asked whether both were equal in terms of money received. They estimate the mean number and sex of people in these two types of train, 12 sample observations were made in each of these conditions. The mean amount of people in metro carriages was found to be 39.82 ± 14.58 (males 23.41 ± 8.00 ; females 16.41 ± 7.26). In suburban train carriages the mean amount was slightly higher, 54.42 ± 18.28 (males 26.34 ± 7.02 ; females 28.08 ± 12.17). Though there were slightly more people in suburban

carriages the difference was not significant. The sex ratio in both cases was close to 1:1.

The mean sizes of donations given in metro and suburban trains were comparable: 1.66 ± 1.64 and 1.58 ± 1.56 respectively. The percentage of passengers who gave in metro trains (4 per cent) was slightly higher than in suburban trains (3 per cent), the difference not being significant. Thus, the probability of receiving donations was very similar in the two types of trains.

Main Begging Strategies

The efficiencies of the main begging strategies were compared across different ethnic groups.

Active aggression

First, we examined the active-aggressive model of behaviour. The following patterns were considered aggressive: pulling, touching, harassing, aggressive facial expression, verbal aggression, various expressions of dominance, and staring. The number of occurrences was recorded over a two-minute interval from the time the beggar was encountered. The aggressive strategy was practised by 24 per cent of all beggars, but its frequency varied across ethnic groups. While 28 per cent of Russians and 24 per cent of Moldavians practised aggressive patterns of begging, it was used by only 8 per cent of Gypsy beggars. The distribution of alms donated to beggars of this category demonstrates that 53 per cent of Russians practising aggressive patterns were moderately successful, and 17 per cent were highly successful. A significant association was found between aggression and gender. Males were more aggressive than females ($r_s = -0.178$, $p < 0.02$). However, the aggressive strategy was mostly practised by children and elderly people rather than by young and mature subjects (62 per cent versus 38 per cent; $r_s = 0.153$, $p < 0.04$). The amount of alms received in response to aggressive begging was analysed in the entire sample (Table 2.3). Although the aggressive strategy

Table 2.3: General Success of Aggressive Begging in the Entire Sample ($N = 178$). (Due to rounding errors percentages do not always add to 100 per cent.)

Number of Donations	Aggressive Strategy	
	Absent	Present
None	42 (31.3%)	12 (27%)
1-3	54 (40.3%)	26 (60%)
More than 3	38 (28.4%)	6 (14%)
Total	134	44
	(100%)	(101%)

appears to be advantageous for getting an average amount of alms, it reduces the chances of getting a maximal amount of alms by a factor of 2 ($r_s = -0.141$, $p < 0.05$). The aggressive strategy, then, is rather safe, but its overall efficiency is average.

Aggressive beggars evoked different reactions in males and females. Males seem to react more negatively toward them (5 per cent of aggressive beggars received no donations at all). Donations to this type of beggar were mostly from female passengers.

Singing and playing as releasers of 'surface reciprocity'

Children can be compared easily across ethnic groups and, in our view, this category is optimal for testing the association between nepotism and altruism (Table 2.4). The overall relationship between the amount of alms received and ethnicity in children revealed no association. Certain tendencies, however, did support the ethnic nepotism hypothesis. Of the Gypsy children, 39 per cent received no alms whatever, as against 25 per cent of Russian children. In addition, more Russian children received over three donations (25 per cent) than did Gypsy children (9 per cent).

Since individual begging strategies and their releasing efficiency may vary across ethnic groups, we assessed the efficiency of singing and playing in children. These were all poor performances and can be described as quasi- or surface-reciprocity (sometimes the concertina was merely demonstrated to the onlookers or just a few lines of a song were sung). It is thus unlikely that potential donors counted this form of playing as a substantial service, and the children's appearance was probably a more powerful releaser than were their musical performances. Nevertheless, 43 of the 57 children observed in the study carried musical instruments, and it is reasonable to suppose that this strategy improved the yield in alms.

The number of instrument-playing children was roughly the same in Russians and Gypsies, but only three Moldavian children sang: too few to be analysed statistically. We observed that only the Gypsy children used singing and playing as their principal strategy. The association between ethnicity and

Table 2.4: Donations Received by Children of Different Ethnic Groups Using Quasi-Musical Performance as a Begging Strategy.

<i>Ethnicity</i>	<i>Number of givers</i>		
	<i>None</i>	<i>1-3</i>	<i>> 3</i>
Russians	1 (5%)	7 (35%)	12 (60%)
Moldavians	0 (0%)	3 (100%)	0 (0%)
Gypsies	8 (40%)	8 (40%)	4 (20%)
Total	9	18	16

Note: 57 children were observed altogether, 43 of whom had musical instruments.

quasi-musical performance was significant ($r_s = 0.659$, $p < 0.001$). However, as evidenced in Table 2.4, even using this more efficient strategy, Gypsy children were less successful than were Russian children. Although the average number of donations was almost the same in both groups, Russian children were highly successful three times more often than their Gypsy counterparts. Ethnic differences in attracting alms were highly significant ($r_s = -0.481$, $p < 0.001$), implying that large visible ethnic differences between beggars and potential donors decreased beggars' chances of success.

Estrangement and motionless (frozen) behaviour

This behavioural strategy is an example of extreme depersonalization in which the facial expression is a mixture of a slight appeasing smile and sadness. Such beggars look down all the time (never at people nearby) and seem to be concentrating deeply on their own thoughts. The behaviour resembles the *tableaux vivants* used by actors. Following Eibl-Eibesfeldt,³¹ we agree that frozenness in the begging context can play the role of a super-normal releaser. This begging strategy was found in all three ethnic groups (Table 2.5). The data on Russians and Gypsies were compared (Moldavians were too few to be considered). It was found that in general, Russians who used the frozen strategy were 1.5 times more successful than Gypsies. Though both ethnic groups received a comparable mean number of donations, Russians were two times more successful in getting the maximum number of donations. This was due to the estrangement strategy yielding a normally distributed set of donations for Russian beggars, but a distribution skewed towards a small number of donations for Gypsy beggars.

Clean clothes as a factor of begging success

For the purpose of statistical analysis we rated clothing quality along an ordinal scale from 1 to 3 (as done with ethnicity), with 1 representing clean, 2 intermediate and 3 dirty. It is sometimes suggested that dirty clothes play a role in begging success. We did not find any connection. In addition, the correlation between ethnicity and quality of clothing was non-significant. Why? One possible reason is the significant positive correlation found

Table 2.5: Estrangement and the Success of Begging in Various Ethnic Groups.

Ethnicity	Number of givers		
	None	1-3	> 3
Russians	12 (27%)	18 (41%)	14 (32%)
Moldavians	2 (20%)	8 (80%)	0 (0%)
Gypsies	8 (44%)	7 (39%)	3 (17%)
Total	22	33	17

between dirty clothes and personalized aggression (pulling, touching, harassment, staring) ($r_s = 0.297$, $p < 0.00$). The aggressive and scornful attitude exhibited by some beggars, together with their dirty appearance, might have been symptoms of mental disorder. It is our impression from observing such beggars in operation that an active-personalized strategy (touching, pulling) causes strong aversion in the public, who then give a small amount of money as a means of getting rid of the irritant. This is an example of non-altruistic motivation for charitable behaviour.

Systematic Relationships between the Number of Donors, Begging Strategy, and Ethnicity

We have analysed the association between principal behavioural patterns used by beggars, their ethnicity, and the number of donors. The patterns included aggression, both non-verbal (pulling, pestering, staring) and verbal (abuse, dominance), religious acts (crossing oneself, blessing), demonstration of subordination (crouching, bowing, nodding), undirected hand movements, and singing and playing as means of surface reciprocity. All data were presented as number of occurrences per two-minute interval, except for ethnicity, which was expressed in ordinal terms, using a scale in which Russians were set at 1, Moldavians 2, and Gypsies 3 as explained above under 'Subjects and Categories' (see Table 2.6). The number of donors was selected as a dependent variable, whereas all other parameters, plus ethnicity, were independent variables (ANOVA, $F = 5.5$, $p < 0.001$, $df = 6$). The effect of four begging patterns given in absolute frequencies (crossing-blessing, hand-moving, singing-playing, crouching-bowing-nodding) was found to be positive and significant, whereas two factors, aggression (absolute frequencies) and degree of ethnic differences (ordinal measures) were found to have a negative impact on the number of donors (Table 2.6).

Table 2.6: Multiple Linear Regression Coefficients.

<i>Patterns</i>	<i>Beta</i>	<i>t</i>	<i>Significance</i>
Aggression	- 0.217	- 2.537	0.01
Cross-bless	0.163	2.268	0.03
Crouch-bow-nod	0.163	2.193	0.03
Handmove	0.214	2.549	0.01
Sing-play	0.219	2.696	0.01
Ethnicity	- 0.156	- 1.948	0.05

Notes: Dependent variable: Number of givers: $R^2 = 0.16$. Thus all variables mentioned in the table influenced only 16 per cent of givers' decisions. This is not a large effect, but it is significant. The other patterns examined had less impact.

Begging Strategies

As a step towards distinguishing possible clusters of begging strategies typical to particular ethnic groups, we assessed the relationships between various begging strategies in general by subjecting our data to principal component analysis. We used nine behavioural combinations most often employed in this context (Table 2.7). The first principal component (hereafter PC1), accounting for 26 per cent of the total variation, reveals a high loading on active begging, addressed to a specific person (aggression and direct appeal), and completely impersonal begging (singing, playing, and an estranged manner). PC1 can then be tentatively described as the degree of personalization. PC2, explaining 15.4 per cent of the variance, has high loading on rhythmical movement of the outstretched arm and the expression of silent grief (immobile countenance, usually combined with a stoop and hanging head). PC2 is possibly a reflection of the beggar's ritualization. The pattern with a high positive loading on PC3, accounting for 13.5 per cent of the variance, revealed high loading on vocal manifestations of grief and hysterical lamentations, suggesting that PC3 may measure the activeness of begging. PC4, with a share in the total variance of 10.4 per cent, has its highest positive loading with the crouch-bow-nod pattern and may be described as the submission and appeasement factor. Playing-singing and estrangement can be regarded as impersonal strategies – neutral and implying good-naturedness. Patterns like aggressive begging and rhythmical arm movement reflected activeness, personalization, and ritualization. These are important attributes of the importunate begging style. Possibly these patterns are used either in combination or interchangeably. In addition, active expressions of grief, nod-stoop, and cross-bless are actively emotional. These tactics differ from the preceding ones by stressing the beggar's

Table 2.7: Results of Principal Component Analysis of Begging Patterns
Based on the Entire Sample (n = 178).

<i>Patterns</i>	<i>PC 1</i>	<i>PC 2</i>	<i>PC 3</i>	<i>PC 4</i>
Active-sadness	0.34816	0.30365	0.68495	– 0.41622
Address	0.68989	– 0.00109	0.09612	– 0.10852
Aggression	0.67185	0.38708	– 0.23369	– 0.16670
Estrangement	–0.69024	0.33800	0.04988	0.29203
Hand-moving	0.47447	0.53517	– 0.48298	0.08698
Hands-stable	0.18246	– 0.48586	0.53613	0.17464
Sing-play	–0.63674	0.13712	– 0.17483	– 0.25120
Sadness	0.37032	–0.74786	– 0.45654	0.08528
Crossing-blessing	0.45813	– 0.01583	0.03910	0.15663
Crouch-bow-nod	0.25199	0.29572	0.22941	0.78146

Note: Only behavioural strategies were compared.

submission and his/her positive attitude towards potential donors. Thus, the begging strategies fall into a few principal clusters, such as active-personified, appeasing-ritualized, and affiliative-impersonal.

Sex Difference in Ethnic Favouritism

In the present project, we tested the hypothesis that donors are selective. Selectiveness has already been demonstrated with regard to ethnicity of beggars, controlling for begging strategy. Do men and women givers differ in ethnic selectivity? As was already stated, the proportion of males to females in both metro and suburban trains was close to 1:1. At the same time, it was found that Russian females donated significantly more frequently compared with Russian males (154 versus 84, $\chi^2 = 20.0$, $p < 0.001$). This was true for donations to all three ethnic groups (to Russian beggars, $\chi^2 = 10.5$, $p < 0.01$; to Moldavian beggars, binomial, $p < 0.05$; and to Gypsies, binomial, $p < 0.05$). Russian males donated to Russian beggars 1.7 times less frequently, to Moldavians 2.1 times less frequently, and to Gypsies 3.4 times less frequently than did Russian female-givers (Table 2.8a). Russian males donated to Russian male beggars 1.7 times less frequently, to Moldavian male beggars 1.8 times less frequently and to Gypsy male beggars 6 times less often compared with Russian female-givers. A significant tendency to help ethnic compatriots, especially returned disabled servicemen who had fought in recent wars, was found in males ($R_s = -0.144$, $p < 0.05$). These data were recently supported by interviews with students ($n = 388$). It was found that males preferred to donate to this category of beggars significantly more frequently than did females ($R_s = 0.134$, $p < 0.0001$).³⁵ At the same time, Russian males discriminated less between female beggars of different ethnicity. Compared with female-givers, Russian males donated 1.6 times less frequently to

Table 2.8a: Alms Given by Russian Males and Females to Beggars Representing Three Ethnic Groups.

<i>Givers</i>	<i>Beggars</i>					
	<i>Russians</i>		<i>Moldavians</i>		<i>Gypsies</i>	
	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>
Males	29 (46%)	37 (57%)	3 (23%)	10 (83%)	4 (24%)	1 (12.5%)
Females	47 (75%)	63 (97%)	9 (69%)	18 (150%)	11 (65%)	6 (75%)

Notes: Absolute numbers of donations are shown. In brackets are shown the average number of donations given to beggars of a particular sex-ethnic category from male and female Russian givers.

Table 2.8b: Beggars' Success in Receiving Alms from Russian Males and Females Broken Down by Beggar Ethnicity.

Donations from	No. of Donations Received	Ethnicity of Beggars		
		Russians	Moldavians	Gypsies
Males	None	74 (58%)	18 (72%)	19 (76%)
	1-3	46 (36%)	7 (28%)	6 (24%)
	More than 3	8 (6%)	0 (0%)	0 (0%)
	Total	128	25	25
Females	None	62 (48%)	9 (36%)	14 (56%)
	1-3	55 (43%)	15 (60%)	9 (36%)
	More than 3	11 (9%)	1 (4%)	2 (8%)
	Total	128	25	25

Notes: The number of beggars receiving a particular gift-frequency category is shown. Shown in brackets are these numbers expressed as percentages of the total number of each ethnic group observed. The total is the number of beggars observed of each ethnicity.

Russian females, 3 times less frequently to Moldavian females, and 2.8 times less frequently to Gypsy females. Also, donations were distributed unevenly between beggars, some of them being much more successful than others, Russian female beggars being over-represented among the successful (Table 2.8b). Our findings suggest that males, consciously or not, are more ethnocentric towards male than female beggars.

DISCUSSION

Begging is widely practised all over the modern world. According to one estimate there may be as many as 450 million beggars in the world today.³⁶ Beggars exist both in the Third World and in developed Western economies.³⁷ Results of many sociological and psychological studies demonstrate that as cities grow, mutual aid becomes less and less intense, attesting to the progressive alienation or anonymity between urban dwellers.³⁸ The decreasing amount of alms donated in cities compared with rural towns is an example.³⁹ Nevertheless, begging is still practised in large multi-ethnic cities such as Moscow. How can that be explained?

The theories of kin selection and reciprocal altruism that are central to sociobiology would not seem adequate to explain the robust base level of charity in anonymous societies, at least not in a straightforward way. A classical ethological explanation is more plausible, as offered by Eibl-Eibesfeldt.⁴⁰ According to ethological theory, humans respond to universal, species-typical gestures that release altruistic motivation, and thus helping

behaviour, in some significant proportion of the population, especially females. When a baby in a stroller is placed in public view near footpaths, female pedestrians are much more likely to turn to observe the child.⁴¹ The baby experiment resembles the typical begging situation in its physical arrangement and play of motivational releasers. Many begging releasers, like the care-eliciting images of babies, are effective across ethnic and racial boundaries, because all ethnic and racial groups belong to the same species and share the same basic phenotype and behavioural repertoire. Indeed, help-eliciting releasers can be effective between species, as any animal lover can attest. Lorenz⁴² argued that the child schema is specific to the mammalian class. Of course, humans usually show greater concern for human than non-human suffering. This is consistent with inclusive fitness theory, since we share many more genes with a randomly chosen fellow human than with any member of a non-human animal species. Similarly, in a less pronounced way, inclusive fitness theory (in the form of ethnic nepotism theory) helps explain greater responsiveness to the begging appeals of fellow ethnics than to other ethnicities. In this indirect way, kin selection theory does explain ethnic effects on charity.

There are also important cultural causes of charity between strangers, whether within or between ethnic groups. As demonstrated by the results of several studies, including ours, large-scale begging is practised in Russia's largest cities, such as Moscow and St Petersburg. At least four explanations may be suggested, and it is probable that all play some role.

1. Cross-ethnic charity could be due to a long-standing custom of mutual aid, rooted in Russia's recent past as an agricultural society. Duty and solidarity are the main motives for helping the poor in traditional agricultural societies such as Senegal.⁴³
2. A religious, specifically Orthodox, tradition encourages compassion for beggars, and encourages the belief that 'there but for the grace of God go I', or the Russian version, 'you can never be sure you won't take the bag'. Christianity, Islam, and Judaism have traditionally viewed charity as a virtue rewarded by God, and donors often say that they follow the old tradition of helping their neighbour.⁴⁴
3. Socialist education encouraged collectivism, social equality, and collective guarantees. However, even in Russia, public attitudes toward beggars are rather ambivalent, since empathy often turns into frustration, and a predisposition to help can paradoxically result in active avoidance, as expressed nicely in the American context by Burns.⁴⁵ In rare instances, we even observed overt public hostility with regard to beggars.
4. Finally, as argued above, it is probable that begging releasers are species-typical, and as such are effective across ethnic boundaries, especially when they are powerful releasers signalling vulnerable categories of age, sex and need (hunger, disability).

Like people everywhere, beggars integrate themselves into their social milieu by choosing appropriate behavioural strategies helped by intuitive knowledge of ethological principles. In our Moscow sample of vagrants, young and mature persons were mostly women. Most male beggars were disabled. The same is true in other European countries. In Ireland, a special category of vagrants exists, known as Irish Tinkers. In modern Dublin, however, Tinker-beggars are mostly women, who evoke more sympathy in the public (they tend to have many children with no visible means of subsistence). Men Tinkers, in contrast, are mostly disliked for being allegedly irresponsible, lazy, and intemperate.⁴⁶ Sex differences may be related to basic releasers of sharing and help. While the sight of a child, a woman, or a disabled or elderly person evokes compassion due to releasers related to appearance, a young, healthy male is associated with potential aggressiveness and danger.⁴⁷

The analysis of begging by three ethnic groups reported in this paper demonstrated that only the Russian sample included all age and sex categories. Only Russians and Moldavians occupied metro trains. In contrast, Gypsy beggars, who exhibited the largest differences in appearance from Russians, were mostly children, most of them girls. Our findings attest to a degree of favouritism shown by potential donors (Russians) to co-ethnic beggars in contrast to beggars from other ethnic groups. Favouritism was also shown to the genetically closer ethnic group (Moldavians) compared with the more distantly related ethnic group (Gypsies). This grading of altruism according to ethnic relatedness is essentially the same as that found by Landa's⁴⁸ analysis of the grades of altruism and trust adopted by ethnic-Chinese middlemen in Malaysia.

It was demonstrated by means of multiple regression analysis that the most successful beggars were those whose begging manner was friendly and included patterns such as nodding, thanking, appeasing postures (crouching and bowing), displaying symptoms of utmost need (e.g. sadness) and religious gestures (crossing oneself and blessing). In contrast, deviation from the majority ethnic Russian appearance seems to reduce beggars' ability to attract alms. The same is true for aggressive begging methods. Why, then, do some beggars resort to the aggressive begging style? As our results suggest, aggressive beggars have a good chance of getting a moderate amount of alms; however, they are unable to get a large amount. Aggressive begging, then, guarantees a 'minimal income'. Individuals who were clearly not dangerous (children, old women, and disabled persons) used aggressive tactics, so the reaction of the potential donors might sometimes have been positive due to unexpectedness. However, the aggressive begging style creates a risk of social tension. It is not incidental that this style was practised mostly by beggars of the same ethnic group as most potential givers (Russians in our case). Nepotism seems to account for the greater tolerance shown toward adult Russian beggars, who behaved in a demanding and even aggressive manner, whereas non-Russian beggars of this age category were few and were highly

submissive and friendly. Gypsies used quasi-musical performance as a releaser of reciprocity most often and practically never behaved aggressively. Cultural-specific behavioural patterns were used as effective releasers both by Russians and Moldavians, but practically never by Gypsies. Instead, estrangement pattern was a component of Gypsies' behaviour.

Results of the principal component analysis demonstrate that each ethnic group of beggars in Moscow has its specific image and technique. The same finding has been made of Gypsy and Romanian beggars in Bucharest, Romania (B. Croitoru and C. Strungaru, personal communication). Begging strategies of Russians were the most variable, the active-personified style being the most popular in this group, and submission being less frequent. Gypsies' behaviour was impersonal, ritualized. Moldavians accentuated their refugee status and their inability to leave or buy food, thus supplementing universal releasers with culture-specific appeals, while emphasizing active-appealing and submissive patterns. The position of beggars from various ethnic groups on PC2 and PC3 reveal another interesting fact. It was mostly Moldavians who monopolized the strategy of vocal manifestations of grief, such as sobbing and hysterical lamentations. Russians seem to prefer less emotional, quieter patterns, such as sadness or silent hand-moving. Thus, other factors being equal, Gypsies have to use the most efficient releasers, begging with childish appearance. Even then they failed to compete with Russians. The results on identical singing-playing strategy in children of Russian and Gypsy origin revealed that if all factors are equal, Russian children are significantly more successful. Moldavians are closer to Russians in terms of age-and-sex distribution and the attitude of Russians towards them is more positive. No wonder their strategies closely resembled those of Russian beggars. Still Moldavians used active-appealing strategies more frequently than did Russians.

Thus the results of our pilot study indicate that ethnic nepotistic tendencies influence the successfulness of vagrant beggars. The analysis of the donors' behaviour, too, revealed certain regularities. Most donors were women. This cannot have been because most passengers of metro and suburban trains were women, since our systematic observations demonstrated a rough parity. However, several possibilities remain. Men and women might be differentially receptive to various releasers. As evidenced by the frequency of donations, the most important factors for women were the appearance of a child or of an elderly person. For these two demographic categories, women's charity was less influenced by beggars' ethnicity. In ethological theory, images of children are more powerful releasers of warmth and nurture in women than in men because of greater female investment in offspring in neonates.⁴⁹ The female nurturing role might have selected, for generalized sympathy, those in need, explaining their generosity to elderly beggars. However, with males, the strong help-eliciting images of a begging child or elderly person did not override ethnic nepotistic bias to the same extent.

Male-givers showed the most positive attitude towards disabled veterans of Russian origin, who wore their uniform and medals while begging. Apparently, solidarity among potential comrades-in-arms is very strong among the Russian men. Many male donors were retired servicemen who had fought in places like Afghanistan, Abkhazia, or Chechnya. Theoretically, military comradeship could compete with ethnic solidarity in attracting male charity. However, we observed no cases of non-Russian returned servicemen. Also, males tended to help females, as confirmed by other studies,⁵⁰ and in this case they paid less attention to ethnic differences. Both male- and female-givers are motivated to give, or not to give, by several characteristics of beggars, including sex and age, begging behaviour, and ethnicity. Sympathy, or its absence, elicited by a beggar's ethnicity can be increased or dampened by his or her demographic and behavioural features.

The ethological analysis of begging and the use of the evolutionary theory suggest that deep-rooted mechanisms of altruism and helping (sharing) are inherent in the human species. This is confirmed by the existence of charity between strangers in anonymous urban settings and by inter-ethnic charity. This study adds to the evidence that this species-typical level of altruism is somewhat raised by evidence of ethnic relatedness, among other factors. Giving was greatest among ethnic Russians, intermediate between ethnic Russians and Moldavians, and least between ethnic Russians and Gypsies, the most distantly related group.

This study is significant because it confirms an evolutionary prediction. It should be emphasized that it does not exclude social conditioning as a proximate cause. Socialization might very well be the cause of male generosity towards returned servicemen and female generosity towards children and the elderly, but this does not contradict the evolutionary interpretation, which deals with ultimate, evolutionary causes. Socialization processes such as indoctrination are found in all societies. The predisposition to socialization, and indoctrination in particular, are compatible with modern theories of human evolution.⁵¹

Since evolutionary theory aspires to universality, further confirmatory research in several cultures will be needed if this result is to be accepted with confidence. We are presently undertaking this research, in addition measuring the effect of different levels of ethnic identification and inter-group hostility.

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Ethnic Diversity, Population Size, and Charitable Giving at the Local Level in the United States

James N. Schubert and Michael J. Tweed

INTRODUCTION

Why charity? From an economic rationalist point of view, it does not make much sense. Certainly, there are forms of giving where there is a material return to the giver. Tax deductions lessen the burden. Social connections, which reinforce profitable activity in other areas, may be established and maintained. Giving can be a form of display that advertises an individual's wealth, contributing to reproductive fitness. However, a good deal of charity is not well publicized, poses a net material cost in excess of incentives, and proffers no imminent expectation for a return benefit. Indeed, findings are that people who make financial contributions to charity are also more likely to volunteer labour time to charitable activities.¹ Although some volunteering is associated with leisure time opportunity, many active volunteers have less, rather than more, free time available for charitable activity, and volunteer labour time is not tax deductible.

Notwithstanding its apparent irrationality, the so-called 'third sector' represents a continuing, perhaps increasingly, important arena of economic activity. In the United States, the deconstruction of the social welfare system over the past generation has been at least nominally predicated upon the capacity of the third sector to subsume formerly public responsibilities for providing a welfare safety net in modern society. Thus, President George Bush hoped for 'a thousand points of light' in his inaugural address, symbolizing the possible expansion of the third sector to accommodate the reduction in federal responsibility for human needs. Indeed, it is somewhat ironic, if not capricious, that economic rationalists looked to irrational private behaviour to compensate the reduction in the public role – for instance, the reliance on food banks and soup kitchens to replace reductions in federally supported food-stamp and school-lunch programmes. Leaving aside the relative efficacy of returning to the British poor laws as the guiding principles for relief in a post-industrial society,² the phenomenon of private relief, then and now, is not only of theoretical interest on the merits, but for better or worse, of increasingly practical significance for the welfare of the needy in the United States.

The problem we address herein is the provision of a collective good in a large group where individual contributions are voluntary and small, recipients are anonymous to donors, and donors may have little expectation of ever directly participating in the benefit provided. In the strict sense, giving under these conditions is not self-interested³ and so presents a condition of altruistic behaviour. Thus delineated, the question excludes giving to non-profit political, professional, business and labour organizations, while it includes giving to philanthropic, environmental and religious institutions. Operationally, charity is considered to include giving that meets the criteria set forth in the legal concepts of the International Revenue Code in the United States, and the Elizabethan Statute of Charitable Uses of 1601 in England.⁴

THEORETICAL CONCERNS

One approach to the study of charitable giving is to observe that, on occasion, humans abandon material self-interest in pursuit of some form of psychic self-interest that is not readily addressed through empirical theory. Freeman, for instance, classifies this behaviour under the provision of 'conscience goods', and proceeds with a descriptive analysis of the correlates of charitable volunteering:

Volunteering and other charitable activity that people do largely when asked are 'conscience goods': public goods to which people give time or money because they recognize the moral case for doing so and for which they feel social pressure to undertake when asked, but whose provision they would just as soon let someone else do.⁵

This perspective accepts the implicit operation of proximate emotional mechanisms, such as sympathy,⁶ empathy, compassion, guilt, or religious/moral obligation, as the basis of altruistic behaviour, without addressing the question of ultimate causation.

Other studies do raise deeper questions. Douglas⁷ raises the question of evolutionary mechanisms, referencing Wynne-Edwards⁸ as the basis for a group selection hypothesis regarding selection for altruistic behaviour. However, he accepts Dawkins⁹ argument that selfish genes govern selection and that group selection theory is passé. Apparently unfamiliar with Hamilton and Trivers,¹⁰ he concludes,¹¹ 'Probably all we can learn from the analogy with biological evolution is the value of diversity.' More narrow-gauge empirical economic theory and research does help lay the foundations for a more general theoretical perspective on charitable giving. Ben-Porath considers the importance of identities in transactions, focusing on the 'F-Connection'; families, friends, and firms, arguing that '... the identity of

people engaged in a transaction is a major determinate of the institutional mode of transaction...the family is the locale of transactions in which identity dominates....¹² Freeman contrasts the F-Connection hypothesis with labour supply explanations:

I find that standard labor supply substitution behavior, which predicts that people will volunteer less when the opportunity cost of time (wages) is high -- explains only a minor part of differences in volunteer activity among individuals with similar demographic characteristics.¹³

He concludes that, 'volunteering behaviour depends more on factors embodied in Ben-Porath's "F-Connection" than on substitution vis-à-vis labor supply considerations', and he cites supporting evidence from a Gallup survey on the influence of family and friends on decisions to volunteer.¹⁴ Finally, Freeman advances the construct of reciprocal altruism as a possible basis for understanding the importance of families and friends in charitable giving.

Of course, the F-Connection correlation with charitable giving encompasses the deductive implications of Hamilton's¹⁵ conception of kin altruism and Trivers'¹⁶ conception of reciprocal altruism, or return benefit theory. With respect to kin altruism, Ben-Porath's emphasis on 'identity' in transactions matters because individuals have a genetic investment in kin, as transaction partners, proportionate to their coefficient of relatedness or shared genes, where fitness is defined 'inclusively' in terms of the survival and reproduction of genes. In larger groups that exceed the immediate and extended family, race/ethnicity provides a cue to the probability of shared genes. Individuals may be expected to favour the identifying characteristic of racial/ethnic group similarity, consciously or unconsciously, as a cue to shared genes, in their charitable giving. On the theoretical basis of kin selection, individuals are hypothesized to be more likely to engage in charitable giving and, when giving, to give more in homogeneous than heterogeneous communities.

Trivers' return benefit theory addresses the problem of altruism among unrelated individuals. Trivers argued that, under the assumptions of inclusive fitness as the engine of natural selection, altruism may have evolved in socially bonded species with longer individual life spans in which individuals who provided a benefit to an unrelated individual at one point in time might reasonably expect to receive such a benefit from an unrelated individual at a later point in time. Reciprocal altruism is most likely when individuals recognize each other and can expect to interact again in the future.¹⁷ The probability of receiving a return benefit is greater, the smaller and more stable the group in which a benefit is given. Thus, giving is more 'rational', the smaller and more stable the community. I am, thus, more likely to stop my car on a winter's eve in the rural countryside near my home in western

New York to assist a strange car in the ditch than I would be under similar circumstances passing through rural Indiana. I am very much more likely to receive a return benefit in western New York than I am in Indiana. On the basis of return benefit theory, we hypothesize that charitable giving will be greater, the smaller and more rural (i.e., face-to-face) the community.

As applied to charitable giving, return benefit theory and kin selection are not competitive but complementary explanations of altruistic behaviour. Relatedness is in fact more likely in smaller, rural communities than in other community contexts. However, these are different theoretical explanations because one is premised on some degree of genetic relatedness, while the other is not. Kin selection theory proposes that racial/ethnic diversity is a theoretical variable bearing upon charitable giving, while return benefit theory does not depend on homogeneity *per se*, although its effects may be augmented by it. In sum, models of kin selection and return benefit place the F-Connection to altruism within an ultimate theoretical framework, providing a deductive basis for hypotheses linking friends and families to variation in charitable giving.

Population Diversity and Collective Goods

A theoretical controversy relevant to the kin selection-based model of charitable giving, but not necessarily the return benefit model, is present over the effects of racial/ethnic diversity on the provision of collective goods. Alesina, Baquir, and Easterly find that 'voters choose lower public goods when a significant fraction of tax revenues collected on one ethnic group are used to provide public goods shared with other ethnic groups'.¹⁸ Their findings are based on data from metropolitan and local areas in the United States and they extend cross-national findings that ethnic diversity is inversely correlated with the provision of public goods.¹⁹ Hero and Tolbert, however, weigh in with apparently contradictory findings. Examining state-level data in the United States on ethnic diversity and on infant mortality, student high school graduation and suspension rates by group, they report that:

In the aggregate, greater minority diversity (bifurcation) is associated with worse policy outcomes. But when policies are disaggregated by race/ethnicity, we find that policy outcomes for minorities are especially poor in homogeneous contexts. This evidence suggests that heterogeneous environments are associated with neutral, if not positive, policy outcomes for minorities.²⁰

They explain their results in terms of a group competition or conflict model, such that, '[i]n more heterogeneous states a "competitive pluralism," competition between many groups, is fostered by moderate to high diversity, and probably heightened by greater population diversity', leading to

increased political competition to provide social benefits.²¹ Despite the apparent contradiction in these studies, they do not disagree that aggregate performance is lower under conditions of heterogeneity. Rather, what Hero and Tolbert report, that minorities may fare better in highly heterogeneous than highly homogeneous contexts, is not addressed in the Alesina study. By implication, even though the aggregate level of goods provided is higher in homogeneous contexts, inequalities in access may be so much larger that minorities fare worse than in heterogeneous contexts where aggregate benefit levels are lower.

With respect to voluntary provision of collective goods outside the public sector, there is no process analogous to organized political competition to facilitate minority group access to benefits; thus, Hero and Tolbert's findings may not apply to charity. In general, a group conflict perspective would propose that charitable giving should decline when minority group size increases to levels that would decrease the benefits to majority group members. Notably, however, from this perspective it is not diversity *per se* that is critical, but an amount of diversity that challenges the position and dominance of the majority group.²² In short, the group conflict approach modifies the depressing effect on giving associated with diversity from the kin selection model by positing a threshold effect.

Moreover, with respect to the social welfare dimension of charitable giving, individuals have the choice of channelling their contributions through community-wide institutions or targeting their gifts to organizations with group identities (e.g. black versus white churches). Other things being equal, higher levels of ethnic diversity might be associated with more targeted giving than with a reduction in the total amount of giving. Indeed, United Way of America received substantial criticism in the 1960s from minorities as an organization run by white businessmen that was not addressing the problems of minorities within the communities served. In response, African-American communities in several areas of the United States began to organize their own charitable campaigns, culminating in the National Black United Fund in 1974. Davis²³ argues that a racially exclusive strategy was widely perceived by agencies serving the black community within the United Way local organizations in such major cities as Washington, D.C. and Boston. Whether due to a total reduction in effort or group targeted efforts, we hypothesize that substantial racial/ethnic diversity is associated with less giving to community-wide organizations.

RESEARCH DESIGN

The dependent variable for this study involves charitable contributions to the United Way organization in the United States. United Way of America today includes some 1,400 independent local United Ways that collectively raised

\$3.4 billion during their 1997/8 campaign. The first local United Way was established in Denver in 1887, as the Charity Organizations Society, planning and co-ordinating services for 22 area agencies. The focus of modern United Way activities is on health and human services. Nation-wide, a third of expenditures are allocated to direct provision of services for children and families. Illustrative of activities may be the Broome County organization headquartered in Binghamton, New York. It reports that 85.5 per cent of contributions are expended meeting health and human service needs. Of this, 36.8 per cent goes to youth programmes, 16.2 per cent to emergency food and shelter, 14 per cent to family counselling, 14.7 per cent to children's programmes, 5.5 per cent to older adults, and 12.8 per cent to community programmes. United Way of America reports that on average individual contributions, from employees and small businesses, account for 49 per cent of total contributions, with another 22.3 per cent contributed by corporations. Across 71 local organizations serving populations between 20,000 and 30,000, for which data were available to us, the average contribution per employee was \$17.83. In sum, United Way provides a very appropriate context to observe charitable behaviour because contributions are voluntary, individual contributions comprise a substantial component of the total and are small in average amount, the bulk of revenues are retained and allocated as benefits at the local level, and health and human services define the primary focus of activity.

Sample

We requested data from the research unit of United Way of America, first on local organizations serving communities with less than 20,000 population, and later for those with 20,000 to 30,000 population. We were provided with data on 56 of the smallest units and 71 of the larger, together accounting for 9.2 per cent of all United Way local units. Our purpose in limiting size of unit was to analyse charitable giving under conditions in which the probability of friends and family receiving benefits was not implausibly small. 1996 data were provided for the smaller units and 1997 data for the larger. Although overall giving to United Way increased in 1997 over 1996 by some 2 per cent, this is not reflected in larger average contributions for 1997 in our data; therefore, we use unadjusted, pooled contribution data in the analyses below. Although we do not have a probability sample, there is substantial geographic dispersion of these units across the midwest, southern and eastern regions of the nation.

Dependent Variable

We measure charitable giving as a community construct. The critical question involves the amount of revenue contributed by the community. For

both data sets, an indicator of giving was defined as the amount of individual contributions, per capita.

Independent Variables

Our theoretical model distinguishes two independent variables: size of population and racial/ethnic diversity. For size of population, we utilized observations provided by the research unit of United Way of America. Data on total population are for 1996 or 1997, respectively, for the two data sets. Ethnic diversity is measured by Alesina *et al.*²⁴ and Hero and Tolbert²⁵ using Lieberman's measure of population diversity,²⁶ Λ_w :

$$\Lambda_w = 1 - 3_{k=1}^p Y_k^2,$$

where Y_k = proportion of population per category; p = number of categories (k).

As Sullivan describes:

It is nicely interpretable in probability terms, since it represents the proportion of characteristics upon which a randomly selected pair of individuals will differ, assuming sampling with replacement. That is, if an infinite number of pairs were selected randomly from a finite population, the average proportion of unshared characteristics of these pairs would be Λ_w .²⁷

Data on race/ethnicity were drawn from US Census data files for the principal municipality in the United Way local organization's geographic area. Municipalities were selected because they would incorporate much of the small business and employee contributions to the unit, as well as the principal concentration of service recipients. In addition, although the larger units often correspond to the dimensions of counties, some unit areas are not coterminous with county boundaries. Across the 127 areas, census populations comprised 54 per cent of the unit populations, and that per centage was greater the more urbanized the area. Racial/ethnic classification categories include white, black, Asian, native American, and other/Hispanic. Minority diversity scores were correlated with data on the percentage of white and black in the census populations. The correlations were -0.94 for per cent white and 0.79 for per cent black.

Intervening Variables

Census data on median household income for 1990 were employed as observations on the economic capacities of units. Wealthy areas have greater

resources available for contribution to charity, but lower need for provision of services and conversely for poorer areas. As might be expected in the United States, diversity co-varies with wealth ($R = -0.293$), such that more diverse units have lower median household incomes. We control for the effects of economic capacity in hypothesis testing.

Dependence on public versus private channels of service delivery may vary substantially with proximity to a major metropolitan area. In addition, attitudes towards the role of the private sector may vary along this same dimension. We employed two indicators of urban proximity. First, we measured the geographic distance in miles from the municipality of the unit's office to the nearest Metropolitan Statistical Area or, lacking a proximate MSA, the nearest regional urban area. The maximum measured distance was 200 miles and the mean was 57. Second, unit areas were classified as (1) predominately rural, (2) proximate to but not within an MSA or else within a mid-sized urban area, (3) within a major urban area or MSA. Not surprisingly, both charitable giving and minority diversity co-vary to some extent with urban proximity. We consider the effects of urban proximity as an intervening variable in the analyses reported below.

The political science literature on American politics over the past 35 years has included substantial attention to the influence of political culture on public policy. Political culture is a construct that describes widely shared attitudes towards the role of government and the scope of public responsibility for social problems. Elazar's typology,²⁸ distinguishing traditionalistic, individualistic, and moralistic patterns in state political cultures, has been the most accepted formulation of the political culture construct in this literature.²⁹ The traditionalistic pattern embraces an active public role limited in scope to preserving the *status quo* and is found predominately in the southern states. Individualistic culture views the public role as best limited to the economic realm and devoted to encouraging 'private initiative and widespread access to the marketplace'.³⁰ Moralistic culture 'emphasizes the commonwealth ... utilizing communal power to intervene into the sphere of "private" activities when it is considered necessary to do so for the public good or the well-being of the community'.³¹ Although Elazar does not speak of the implications of these culture patterns for the 'third sector', we may reasonably extrapolate from the attitudes towards collective action contained within them. Traditionalistic culture is expected to eschew collective action to provide social welfare, through either public or private channels, because it is premised on individual responsibility and preservation of the *status quo*. Conditions of human welfare are matters of individual, not public or communal responsibility. Neither the moralistic nor individualistic pattern is inherently hostile to voluntary participation in collective action through non-profit community organizations.

Critics of political culture studies applying Elazar's typology observe that the categories tend to co-vary with geographic regions of the United States

and observe that region as a variable does as well as the typology in capturing variation in public policy performance.³² Most certainly, Southern region and traditionalistic culture are coterminous at the state level, both capturing states with strong, historically based racial population diversity rooted in the pre-Civil War Southern slave-based economy. We consider Southern regional location as a theoretically important intervening cultural factor in the relationship between minority diversity and charitable giving at the local level in the United States.

RESULTS

Figure 3.1 plots the relationship between population size and charitable giving. The simple correlation between these two variables across all 127 United Way units in our sample is -0.51 . It is perfectly clear in these data that the smaller the community, the greater the giving. As the quadratic curve of these data reveals, this pattern is especially characteristic of communities smaller than 25,000 population in size. Above that level, the effect disappears. Also, among the very smallest communities, giving levels

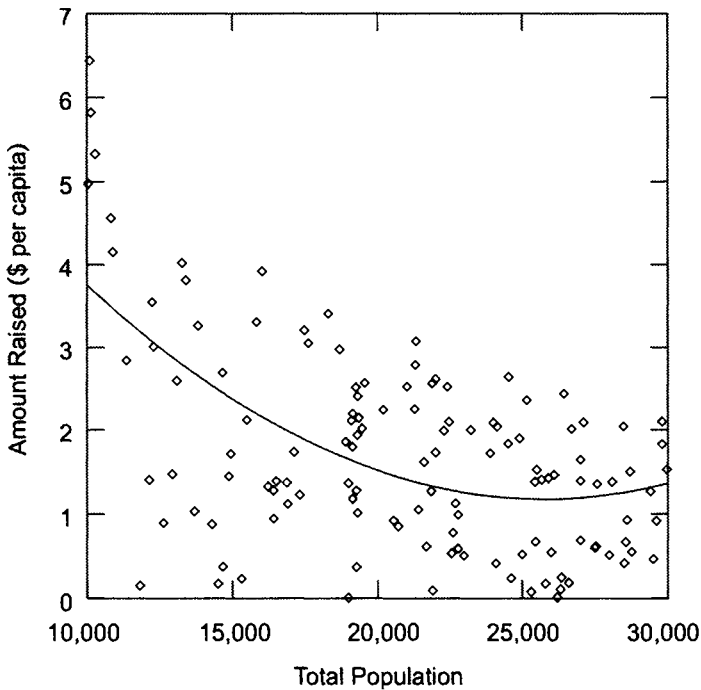


Figure 3.1: Charitable Giving by Community Size

are considerably greater than the sample average of \$1.72, ranging from about \$3 to \$6.50 per capita.

To describe the statistical properties of the relationship, we used two-stage least squares analysis. Two-stage least squares was employed because the ordinary least squares assumption of homoscedasticity is not met: specifically, the higher the estimate, the greater the error in estimation. Two-stage least squares corrects for heteroscedasticity and yields 'heteroscedastic consistent', unbiased error terms for the independent variables in the equation. Because of the apparent non-linear pattern of effects in Figure 3.1, a second-order polynomial term, population size squared, was included in the equation. The results, presented in Table 3.1.A, are partial effects for population size – that is, with the effects of median household income, urban proximity (in miles), and Southern regional location, a dummy variable, controlled by prior inclusion in the analysis. Only the effects for population size are statistically

Table 3.1: Population, Size, Minority Diversity, and Charitable Giving.

A. Charitable Giving (\$ per capita) by Population Size				
	<i>Estimate</i>	<i>S.E.</i>	<i>t-ratio</i>	<i>p</i> <
Constant	7.768	1.912	4.062	0.000
Income	0.011	0.016	0.717	0.475
Urban Proximity	0.003	0.002	1.435	0.154
Southern Region	− 0.148	0.204	− 0.729	0.467
Population	− 0.534	0.164	− 3.259	0.001
Population Squared	0.010	0.004	2.790	0.006
F	12.192	***		
R ²	0.337			
Adjusted R ²	0.309			
N	126.000			
B. Charitable Giving (\$ per capita) by Minority Diversity				
	<i>Estimate</i>	<i>S.E.</i>	<i>t-ratio</i>	<i>p</i> <
Constant	− 0.669	1.003	− 0.668	0.506
Income	0.000	0.000	1.163	0.247
Urban Proximity	0.004	0.003	1.439	0.153
Southern Region	0.335	0.349	0.958	0.340
Log(Diversity)	− 1.064	0.447	− 2.379	0.019
Log(Diversity) Squared	− 0.191	0.082	− 2.336	0.021
F	1.462			
R ²	0.057			
Adjusted R ²	0.018			
N	126.000			

Two-stage least squares analysis; standard errors are 'heteroscedastic consistent' results.

significant, in conjunction with a significant effect for the second-order polynomial term. The equation as a whole, that is also significant, accounts for one third of the total variance in charitable giving. Thus, population size is a very important factor in altruistic behaviour.

The simple correlation between minority diversity and charitable giving is -0.138 and nearly significant in a one-tailed test ($p < 0.0615$). However, the distribution of minority diversity is statistically skewed and this relationship, too, is non-linear, in that small increments in diversity from the condition of no diversity appear to have systematic effects on charitable giving. To adjust for the positive skew and to model the effects of such small increments, a logarithmic transformation was performed on the diversity index scores, as illustrated in Figure 3.2. This plot reveals that giving actually increases with greater diversity up to a point where population diversity reaches approximately 10 per cent, after which, giving declines with greater diversity.

The statistical description in Table 3.1.B, based on two-stage least squares with a second order polynomial term to model the non-linear pattern of effects, reveals that the partial effects for minority diversity (logged) on charitable giving are statistically significant. However, the strength of effects appears to be much weaker than for population size, with only 6 per cent of the variance in giving predicted by the equation. Nonetheless, minority

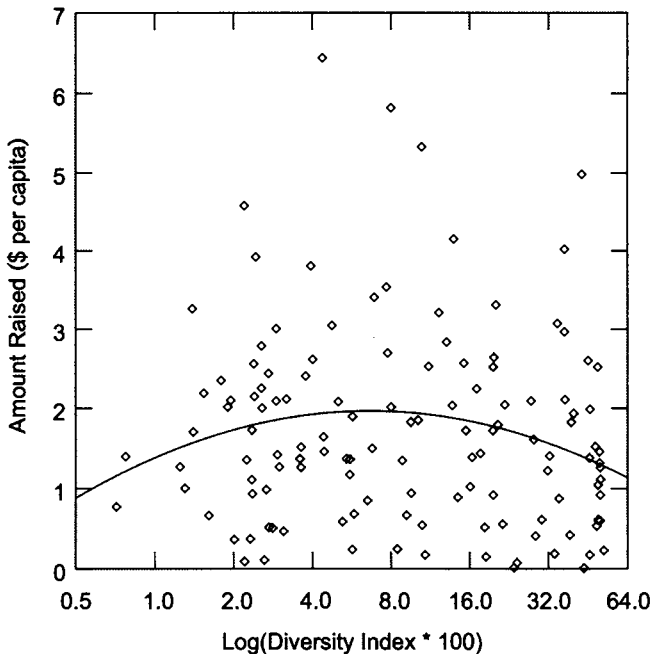


Figure 3.2: Charitable Giving by Racial/Ethnic Diversity

diversity does appear to make a significant contribution to the variance in charitable giving and it is not a simple matter of increasing racial/ethnic homogeneity. Thus, giving only begins to decline with heterogeneity after the amount of diversity reaches the level at which group conflict and competition might plausibly become a significant factor in charitable contributions to an institution providing community-wide collective goods.

It does not appear to be the case that the decline in giving under conditions of greater diversity represents lower giving by both majority and minority populations. Some light on this question is provided by considering differences in charitable giving as the percentage of African-American population in the unit approaches and passes the level of majority. For thirteen communities in our sample with 33 per cent or more African-Americans, the data in Figure 3.3 show that giving increases with the proportion of black population between 33 and 73 per cent. For these communities, population size has very little effect at all on giving. Assuming that giving behaviour is randomly distributed across white and black segments of the populations, a fair assumption given that solicitations would be determinative of the lower means in the 33–45 per cent black range, and African-American contributions would drive the higher means in the 50 per cent + range. Thus, it would appear that white giving behaviour declines as

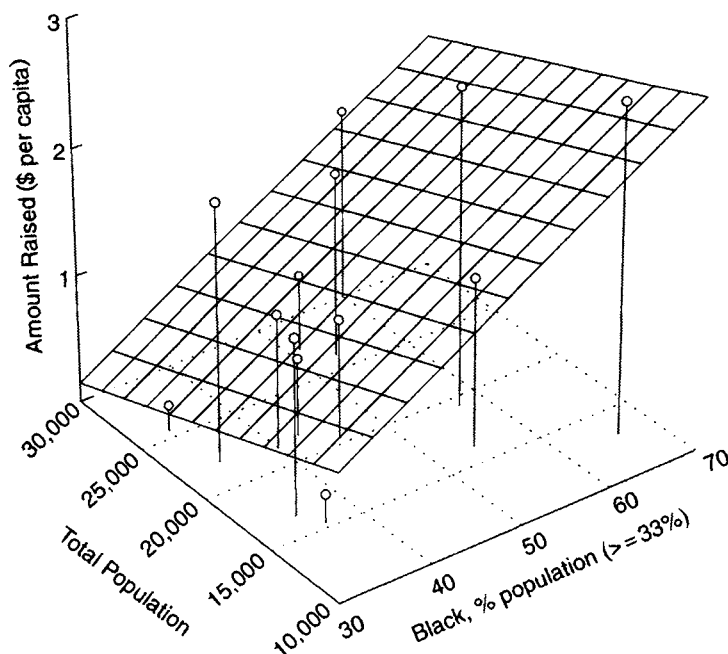


Figure 3.3: Charitable Giving in More Diverse Communities

minority populations become proportionately significant in size, raising concerns with group competition over collective goods.

Figure 3.4 plots the simultaneous effects of population size and minority diversity on charitable giving, with a quadratic surface applied to the three-dimensional data display. It is interesting to observe that charitable giving is least among the larger and most homogeneous communities. In general, smaller size is critical for charity both in homogeneous and heterogeneous communities. However, giving increases in large communities with heterogeneity, plausibly, but not certainly, with increased giving by minorities within those communities. Still, however, giving is greatest in relatively heterogeneous, smaller communities. Thus, diversity is important, but size is critical.

Statistical results presented in Table 3.2 show that with intervening variables controlled, the partial effects for both population size and minority diversity and their second-order polynomial terms are statistically significant, as is the predictive equation as a whole. Among the intervening variables, only urban proximity even approaches the level of significant effects. Here, as in the equations of Table 3.1, distance from urban areas is associated with

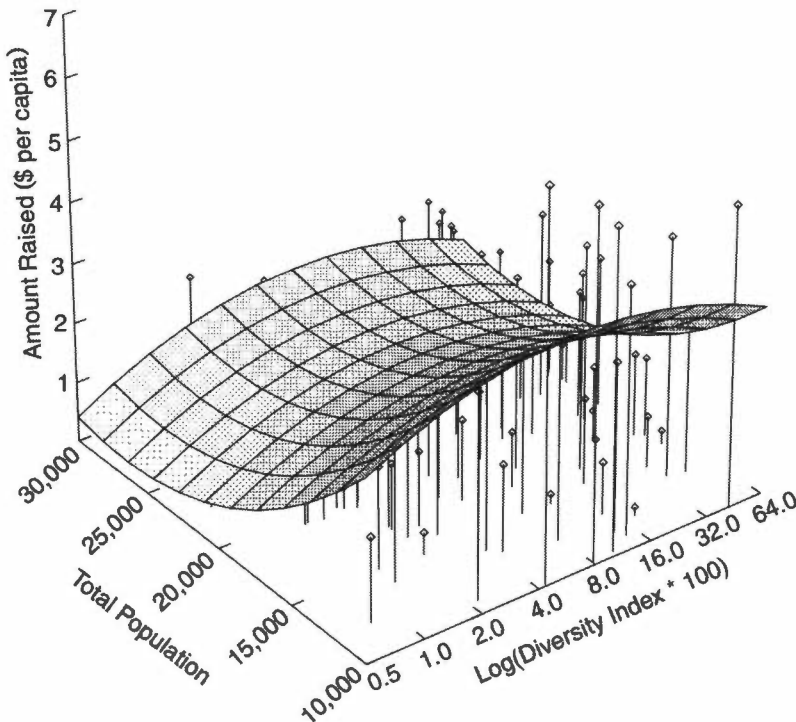


Figure 3.4: Charitable Giving by Community Size and Diversity

Table 3.2: Charitable Giving by Population Size and Diversity.

	<i>Estimate</i>	<i>S.E.</i>	<i>t-ratio</i>	<i>p</i> <
Constant	6.265	1.950	3.213	0.002
Income	0.000	0.000	0.388	0.699
Urban Proximity	0.003	0.002	1.402	0.164
Southern Region	0.206	0.308	0.669	0.505
Population	-0.513	0.161	-3.190	0.002
Population Squared	0.010	0.004	2.684	0.008
Log(Diversity)	-0.895	0.394	-2.270	0.025
Log(Diversity) Squared	-0.162	0.072	-2.261	0.026
F	9.340	***		
R ²	0.357			
Adjusted R ²	0.318			
N	126.000			

Two-stage least squares analysis; standard errors are 'heteroscedastic consistent' results.

greater giving, consistent with the pattern for smaller population size. Southern location and economic capabilities have no apparent bearing on charitable giving at all.

Confirmatory Analyses

Additional data were provided by United Way for the larger communities, 20,000 30,000, for 1997, that enable confirmatory analyses of some parameters of the findings presented above. Data for 1997 were provided on the number of manufacturing employees per United Way unit and the amount given per employee. Dividing the total amount given by the amount given per employee, an estimate was calculated of the number of employees who contributed. We arranged the number of employees who gave by the total number of employees to define as a variable the percentage of total employees solicited who contributed to the fund-raising campaign. This variable provides an indicator of participation in the fund-raising campaign, addressing a second dimension -- in addition to mean amount given -- of charitable giving behaviour. In addition, we utilized the provided data on amount given per employee solicited to indicate better individual, as opposed to community, contributions. These two additional indicators add to the validity of our measurement of charitable giving, as they capture aspects of both the scope and depth of altruistic behaviour.

Data were also provided for these larger communities on the size of the non-agricultural population in the United Way unit. Subtracting the non-agricultural population from the total population, we defined a variable -- the agricultural population, as a percentage of total population -- to measure directly the characteristic of urban-rural population.

Statistical results are presented in Table 3.3. Percentage of employees contributing is only a function of population size among the two theoretical variables. Here, the relationship is very much consistent with the parabolic pattern of effects in Tables 3.1 and 3.2. Participation is a great deal larger in smaller communities and flattens out in larger ones. Diversity, on the other hand, appears independent of participation.

With respect to the amount given per employee, population size does not reach the level of significant effects, but diversity does. The same non-linear pattern of effects observed in Tables 3.1 and 3.2 is present here:

Table 3.3: Results for Communities with 20–30K Populations, 1997.

A. Percentage of Employees Contributing				
	<i>Estimate</i>	<i>S.E.</i>	<i>t-ratio</i>	<i>p</i> <
Constant	823.740	308.115	2.673	0.010
Income	0.000	0.001	0.097	0.923
Urban Proximity	−0.069	0.113	−0.607	0.546
Southern Region	−23.123	11.867	−1.949	0.056
Agricultural, % Population	0.676	0.619	1.091	0.279
Population	−63.293	24.540	−2.579	0.012
Population Squared	1.248	0.486	2.567	0.013
Log(Diversity)	3.797	17.988	0.211	0.834
Log(Diversity) Squared	−0.295	3.147	−0.094	0.926
F	2.029			
R ²	0.186			
Adjusted R ²	0.095			
N	70.000			

B. Amount Given per Employee				
	<i>Estimate</i>	<i>S.E.</i>	<i>t-ratio</i>	<i>p</i> <
Constant	−187.943	119.320	−1.575	0.120
Income	0.001	0.000	1.605	0.114
Urban Proximity	0.049	0.048	1.025	0.310
Southern Region	12.873	5.769	2.231	0.029
Agricultural, % Population	0.145	0.248	0.582	0.562
Population	12.474	9.894	1.261	0.212
Population Squared	−0.257	0.194	−1.323	0.191
Log(Diversity)	−14.126	6.822	−2.071	0.043
Log(Diversity) Squared	−2.556	1.228	−2.082	0.042
F	1.858			
R ²	0.173			
Adjusted R ²	0.080			
N	70.000			

Two-stage least squares analysis; standard errors are 'heteroscedastic consistent' results.

people gave less under conditions of lower and higher diversity. Among the intervening variables, economic capacity does show nearly significant effects on the amount given per employee. This is an expected pattern and, therefore, contributes to the concurrent validity of the measurement model. Otherwise, it is interesting to observe that Southern regional location does have significant effects in the analyses reported in Table 3.3. Specifically, fewer potential givers contributed to United Way in the South, but when they did, they gave more. The failure of this variable to demonstrate significant effects in the prior analyses might suggest that cultural factors are less important in small communities than larger ones. To test this hypothesis, we re-analysed the data on per capita amount given separately for the two samples of smaller and larger communities. Here, the effects for Southern location only approached significance ($p < 0.09$ in a two-tailed test) in the smaller, not the larger communities, and the effect was for greater giving in the South.

DISCUSSION

This study advanced theoretical propositions grounded in evolutionary theory to explain the causal processes underlying the so-called F-Connection – friends and families – in charitable giving behaviour. On the one hand, we proposed that if charitable giving was substantially an expression of reciprocal altruism, people would be expected to be more charitable in smaller communities where the probability of receiving a return benefit would be greater than in large communities. On the other hand, if charitable giving is also influenced by inclusive fitness-based concerns with shared genes, then people would be expected to give more under conditions of racial/ethnic homogeneity than heterogeneity.

Our findings with respect to community size are unequivocal. Charitable giving decreases as community size increases. People give the most in the smallest communities. Our smallest communities were about 10,000 in size. In such communities, interpersonal and interfamily acquaintances are frequent. People within age cohorts have grown up together, attended the same schools, had their children attend the same schools, read the same local newspaper with common exposure to birth, wedding and death notices, and meet each other periodically in the grocery stores, shops and workplaces. No doubt a sense of community belonging and responsibility emerge in the context of *Gemeinschaft* that might predispose to charity. However, these are proximate causal influences on behaviour that operate within, and mediate the functions of, reciprocal altruism.

Of course, emotional bonds are reinforced in the case of charitable giving by the public display associated with the behaviour. Donors, especially bigger donors, are publicly known and recognized for their charitable deeds.

Indeed, many United Way webpages devote substantial space to crediting contributors. Surely, some contributions are motivated by prospective credit and others by the coercive implications of knowing that one's employer sits on the local United Way Board of Directors. These sorts of influences, however, are not so obviously a function of community size.

With respect to racial/ethnic diversity as a factor expressing the influence of kin altruism upon charitable giving, our principal finding is that it is far less influential than population size, although statistically significant. Second, the effects of diversity are non-linear. As an untransformed variable, the simple bivariate effects of diversity on per capita giving account for only 1.5 per cent of the variance and are not significant. The non-linear pattern of effects contradicts the theoretical hypothesis that charitable giving declines in a direct linear fashion with increasing diversity. Rather, charitable effort is least under conditions of nearly perfect homogeneity. This is not a function of greater wealth and lower need in the most homogeneous communities, because in these data the least diverse communities (below 0.10 diversity) were not among the wealthier areas (i.e., median household income > \$25,000).

Six communities had diversity scores below 0.015. These are small, rural towns – two are located in central eastern and western Iowa, one in far north-western Missouri, two in upper Wisconsin, and one in central Ohio – on average over 40 miles from any urbanized area, with median house incomes ranging from \$22,000 to \$30,000, indicating lower need for charitable activity. We lack data on non-agricultural employment, but hypothesize that it is low in these areas, with farming as the economic base, presenting a challenge for United Way fund-raising campaigns. In short, unique conditions under which perfect homogeneity arises may explain the very low level of charitable giving. On the other hand, these are quintessential contexts of *Gemeinschaft* community, where kinship ties would be dense and widely known and the probability of return benefits quite high.

Third, beyond about 10 per cent minority population, giving does decline overall with greater diversity. However, so does economic capacity, as the more diverse communities have median household incomes below \$25,000. Moreover, among these poorer and most diverse communities, our data revealed that the larger the proportionate black population, the greater the giving. Of course, an increase in the diversity score implies a decline in the white population and, in general, an increase in the size of the principal minority population. Plausibly, the threshold effects on charitable giving vary between majority and minority groups in a population. In this case, white giving might decline as the majority share of population drops below 90 per cent, while minority giving increases as their share of population approaches even 50 per cent. Thus, individual perceptions of group advantage may be very much conditional on the relative social dominance of groups within the structure of society.³³

Our explanation here is frankly speculative and only raises a hypothesis for exploration in subsequent research. However, it is plausible that dominant and subordinate groups respond differently to their proportional frequencies in a population. The conditioning assumption here is that majority racial/ethnic groups are dominant and minority groups are subordinate in terms of socio-economic status. Under this condition, it is probable that minority group members will receive a disproportionate benefit from charitable giving, in the absence of racial/ethnic discriminatory preferences in the allocation of benefits. In this situation, to the extent that group considerations affect giving, they should do so by depressing contributions by the majority soon after the benefit provided to their group is diluted by minority group recipients, while minority givers may increase giving as their group's pool of potential recipients approaches a critical mass. Ethnic nepotism is at work in this model, but its expression is contingent upon the structure of social dominance among groups in society.

Overall, the downside of our findings is that the white majority population appears less willing to provide collective goods, as the minority population approaches significant size, consistent with the findings of Alesina.³⁴ The upside is that minority groups may pick up the slack in charitable giving as they grow larger. Thus, as the majority becomes more exclusive, the minority may become more inclusive. In this light, the Hero and Tolbert³⁵ argument makes some sense. The same social conditions that would explain higher levels of health and education within minority populations may also explain participation in community organizations, United Way fund-raising campaigns, and volunteer activity generally – namely, family stability, employment security, and middle income attainment.

The depressing aspect of these findings is that they occur in a historical context in which the United States, at national, state and local levels of government, is undertaking a large-scale reduction in public financing of social welfare. For example, in New York City, Mayor Giuliani implemented policies to reduce the welfare rolls by 50,000 cases per year in the late 1990s. Through measures such as imposing waiting periods for processing federal food-stamp applications, the food-stamp rolls fell by 15 per cent in 1997/8 in New York City. Over the same period, DeParle reports, 'requests for help reported by soup kitchens and food pantries has risen 24 per cent,'³⁶ the latter being supported by private charity. In this manner, public policy is transferring responsibility for social welfare in the United States from the public sector to the 'third' sector, and this process is dramatically increasing the social importance of patterns of charitable giving. Our findings show that giving is likely to be least, where the need is greatest. The concept of charitable giving to support private, indoor relief for widows, orphans and the elderly that arose in the early stages of the industrial revolution, efficacious or not, invites the operation of evolutionary mechanism that would appear ill-suited to the provision for human well-being in post-

industrial society where communities are large, ethnically diverse, and reflect highly differentiated patterns of dominance and subordination in inter-group relations.

NOTES

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Ethnic Heterogeneity and Public Spending: Testing the Evolutionary Theory of Ethnicity with Cross-National Data

Stephen K. Sanderson

INTRODUCTION

The sociobiology of ethnicity is by now an established part of sociobiological thinking. Ethnic attachments seem to be universal, primordial human sentiments. Ethnocentrism – the view that one's own group is superior to all others and the focal point from which other groups should be judged – seems to have been implanted in the human biogram long ago, and may even have been inherited, to some extent, from our primate ancestors.¹ In the ancestral human environment, fierce loyalty to a community or tribe would have been highly adaptive. Those who were most loyal to their group would have defended it more vigorously and have lived longer, on average, and thus would likely have passed along more copies of their genes to future generations.² Rudimentary forms to which we now refer as ethnic attachments would have been favoured by natural selection. Even Darwin himself saw that this should have been the case. As he said, 'A tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage and sympathy, were always ready to aid each other and to sacrifice themselves for the common good would be victorious over most other tribes.'³

Pierre van den Berghe has argued that ethnicity is, in actuality, an extension of kinship.⁴ Just as people behave more altruistically towards kin than non-kin, they behave more altruistically towards the members of their own tribe, nation, or ethnic group. People favour their own ethnic group and tend to look with disdain on the members of other groups. One way of testing this argument is to examine the relationship between a society's degree of ethnic homogeneity or heterogeneity and its level of public spending. In the broadest sense, the expectation would be that public spending should be greatest in the most ethnically homogeneous societies. Ethnically heterogeneous societies should have less public spending because people are more reluctant to incur costs to provide for others when those others are much less likely to belong to their own ethnic group.

There has not been a great deal of research to test this idea, but let us look at what there is. Gilens looked at the impact of eight variables on Americans' preferences for welfare spending: the perception that blacks are lazy, the perception that poor people are lazy, individualism, family income, age, party identification, liberal versus conservative attitudes, and level of education.⁵ He found that the perception that blacks are lazy was the most powerful predictor of welfare spending preferences. Gilens concluded that 'the popular belief that welfare is a "race coded" issue appears warranted'.⁶ Several studies have looked at the relationship between the degree of ethnic or minority diversity of states of the United States and various forms of public spending. Hero and Tolbert found that expenditures on Medicaid were lower in states with greater minority diversity and point to similar results from other studies.⁷ Plotnick and Winters found a negative relationship between financial support for Medicaid and the size of a state's non-white population.⁸ Controlling for a number of factors, Brown found a negative relationship between welfare effort and black percentage.⁹ Radcliff and Saiz showed strong negative relationships between the degree of political participation by blacks and welfare spending, policy liberalism, and total spending.¹⁰

Alesina, Baqir, and Easterly examined the impact of ethnic heterogeneity on public spending in a large sample of American cities, controlling for such variables as income per capita, city size, educational attainment, income inequality, and age structure.¹¹ They found that ethnic heterogeneity had a depressing effect on a variety of forms of public spending, including expenditures on roads, education, sewerage and refuse collection, welfare, and libraries. Spending on police protection and on health and hospitals actually increased with ethnic heterogeneity. The positive relationship between heterogeneity and health and hospitals is puzzling, but the positive relationship between heterogeneity and police spending appears to be related to the incidence of crime, which Alesina, Baqir, and Easterly found to be correlated with heterogeneity at $R = 0.48$. The authors concluded that their 'results contribute to explaining why the problem of public urban goods in America appears so intractable. The public goods problem is linked to another problem that also appears intractable: ethnic divisions'.¹²

Hero and Tolbert have shown that the vote on California Proposition 187, an illegal immigration initiative, and the California vote on a single-payer health plan initiative, were very closely related.¹³ Californians voted on both political measures in 1994, and Hero and Tolbert report a zero-order correlation of -0.87 (Pearson r) between these two measures. This means that 'those counties that voted most heavily to restrict services to illegal immigrants were also the most opposed to the single payer program'.¹⁴ Along similar lines, Faist points out that in recent years, in various European countries and in the United States, there has occurred an 'ethnicization' and 'racialization' of welfare state policies as immigration has increased.¹⁵ He

expects a further reduction in the regulatory and redistributive activities of welfare states in the years to come if immigration continues or increases.

All of these studies are important and their results highly suggestive, but they are greatly limited in their focus. What remains to be done is an analysis of the effects of ethnic heterogeneity on public goods spending at a world level. This study is devoted to that end.

METHODS

One hundred and twenty-one societies, representing the entire world and all levels of economic development, were selected from various annual instalments of the World Bank's *World Development Report*. The dependent variables were public expenditures on welfare, health, and education, measured as a percentage of gross national product or gross domestic product. Data were obtained from the *World Development Report 1992*¹⁶ and are for the year 1990. The *World Development Report* describes welfare spending as '(1) public expenditure on housing, such as income-related schemes; on provision and support of housing and slum clearance activities; on community development; and on sanitary services; and (2) public expenditure for compensation to the sick and temporarily disabled for loss of income; for payments to the elderly, the permanently disabled, and the unemployed; and for family, maternity, and child allowances. The second category also includes the cost of welfare services such as care of the aged, the disabled, and children, as well as the cost of general administration, regulation, and research associated with social security and welfare services.'¹⁷ Health-care spending is described as 'public expenditure on hospitals, medical and dental centres, and clinics with a major medical component; on national health and medical insurance schemes; and on family planning and preventative care. Also included is expenditure on the general administration and regulation of relevant government departments, hospitals and clinics, health and sanitation, and national health and medical insurance schemes.'¹⁸ Educational expenditures are described as 'public expenditure for the provision, management, inspection, and support of preprimary, primary, and secondary schools; of universities and colleges; and of vocational, technical, and other training institutions by central governments. Also included is expenditure on the general administration and regulation of the education system; on research into its objectives, organization, administration, and methods; and on such subsidiary services as transport, school meals, and medical and dental services in schools.'¹⁹

The independent variable, ethnic heterogeneity, was calculated in five different ways. The first measure employed, called Ethnic Heterogeneity 1, was calculated by using Vanhanen's²⁰ measure of ethnic homogeneity, which he measured as the percentage of the total society taken up by the largest

ethnic group. This measure was converted into a heterogeneity measure by subtracting it from 100. A second measure of ethnic heterogeneity, Ethnic Heterogeneity 2, was Vanhanen's²¹ more recent measure. This measure is a composite of three submeasures. These assess, respectively, linguistic, national, or tribal differences; racial differences; and religious differences. Each submeasure is the percentage taken up by the largest group subtracted from 100. Ethnic Heterogeneity 2 is simply the sum of the three submeasures.

The third measure of ethnic heterogeneity, called Ethnolinguistic Fractionalization, was drawn from Mauro²² and was originally reported by Taylor and Hudson.²³ This measure characterizes groups as ethnically separate based on their historical linguistic origin; it indicates the probability that any two randomly selected individuals in a given society will not be members of the same ethnolinguistic group.²⁴ Ethnolinguistic Fractionalization is assessed as of 1960–65. I created two additional measures of ethnic heterogeneity by combining measures. I added Ethnic Fractionalization to Vanhanen's measure of racial differences to create a variable I call Ethnoracial Differentiation. I then added Vanhanen's measure of religious differences to this to create a variable called Ethnic Heterogeneity 3. Ethnoracial Differentiation measures the extent to which a society is characterized by both ethnic and racial differences, whereas Ethnic Heterogeneity 3 measures the extent to which a society is characterized by all three types of social cleavages. Ethnic Heterogeneity 3 is, in principle, just like Ethnic Heterogeneity 2, except that it employs Taylor and Hudson's, rather than Vanhanen's, measure of ethnic differentiation. The reason the two new measures were created has to do with the greater sensitivity (or accuracy) of Taylor and Hudson's ethnic differentiation measure compared with that of Vanhanen.

Several additional measures were included in the analysis to serve as controls, as well as to see how well they were able to predict a society's level of public spending. These variables were GNP per capita, party fractionalization, level of democracy, and organized labour. GNP was obtained from the *World Development Report 1992*²⁵ and pertains to 1990. The last three variables were obtained from Taylor and Jodice's *World Handbook of Political and Social Indicators*.²⁶ Party fractionalization was measured as 'the likelihood that two randomly selected members of the national legislature will belong to different [political] parties'.²⁷ Dates are variable, but are mostly for the 1970s. Level of democracy was measured by using Vanhanen's²⁸ index of democratization and pertains to 1985. This is a composite measure consisting of two subvariables: the smaller parties' share of votes cast in national elections, and the percentage of the population voting in national elections.²⁹ Organized labour is measured as the percentage of the total labour force belonging to organized trade unions and pertains to c. 1975.

The statistical analyses carried out were multiple regressions using one of the measures of ethnic heterogeneity and the other four independent

variables. On account of missing data on several variables, the number of cases on which the analyses could be performed was reduced to 47.

RESULTS

Table 4.1 displays the findings when Ethnic Heterogeneity 1 is employed in the analysis. In this and all subsequent analyses, three variables – GNP, level of democracy, and degree of labour unionization – had to be logarithmically transformed because of excessive skewness. As can be seen from Table 4.1, Ethnic Heterogeneity 1 relates to welfare spending but is a relatively weak predictor. GNP is clearly the best predictor, followed by labour unionization and level of democracy. It is not surprising that these three variables are strong predictors of welfare spending. All five variables together explain at least 65.5 per cent of the variance in welfare spending, but Ethnic Heterogeneity 1 contributes quite modestly to this.

Table 4.2 substitutes Vanhanen's more comprehensive measure of ethnic heterogeneity, Ethnic Heterogeneity 2. This analysis produces better results. Ethnic Heterogeneity 2 is more highly correlated (-0.560 versus -0.511), has a higher partial correlation (-0.456 versus -0.286), and has a higher standardized beta coefficient (-0.295 versus -0.186) than Ethnic Heterogeneity 1. In fact, Ethnic Heterogeneity 2 has the highest partial correlation of all the independent variables. It also has the highest t score. All five variables explain at least 70.3 per cent of the variance in welfare spending. Ethnic Heterogeneity 2 is the third-best predictor and is only slightly behind level of democracy and GNP. It would appear that this measure of ethnic heterogeneity, taking into account as it does a wider range of social divisions, is a more sensitive, and thus better, measure.

Table 4.1: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 1 on Welfare Expenditures.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	0.757	0.443	0.402	3.162	0.003
LogLevel of Democracy	0.577	0.336	0.273	2.281	0.028
LogLabour Organization	0.581	0.384	0.282	2.666	0.011
Party Fractionalization	0.362	-0.112	-0.078	-0.724	0.473
Ethnic Heterogeneity 1	-0.511	-0.286	-0.186	-1.913	0.063
R = 0.832					
R ² = 0.693					
R ² (adjusted) = 0.655					
N = 47					

Table 4.2: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 2 on Welfare Expenditures.

Variable	Zero-Order	Partial	Stand. Beta	t	Sig.
LogGross National Product	0.757	0.377	0.319	2.606	0.013
LogLevel of Democracy	0.577	0.413	0.321	2.905	0.006
LogLabour Organization	0.581	0.419	0.290	2.956	0.005
Party Fractionalization	0.362	-0.108	-0.070	-0.698	0.489
Ethnic Heterogeneity 2	-0.560	-0.456	-0.295	-3.279	0.002

$R = 0.857$
 $R^2 = 0.735$
 R^2 (adjusted) = 0.703
 $N = 47$

Table 4.3 displays the results using Ethnolinguistic Fractionalization as the measure of ethnic heterogeneity. These results are extremely similar to those of Table 4.2, at least in terms of the role of ethnicity. Ethnolinguistic Fractionalization has the highest partial correlation and the highest t score, and it is the third-best predictor. There is a slight improvement in ethnicity's showing, suggesting that Ethnolinguistic Fractionalization is an even more sensitive measure than Vanhanen's more comprehensive ethnic heterogeneity measure.

I next employed Ethnoracial Differentiation as the indicator of ethnic heterogeneity (Table 4.4), which provides a more complete picture of the range of cleavages within a society. This variable turns out not only to have the highest partial correlation of all the independent variables (a very substantial -0.581) and the best t score (an impressive -4.580, sig. = 0.000), but also the highest beta coefficient (-0.375). This makes it the best predictor

Table 4.3: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnolinguistic Fractionalization on Welfare Expenditures.

Variable	Zero-Order	Partial	Stand. Beta	t	Sig.
LogGross National Product	0.757	0.398	0.334	2.782	0.008
LogLevel of Democracy	0.577	0.392	0.299	2.726	0.009
LogLabour Organization	0.581	0.459	0.324	3.306	0.002
Party Fractionalization	0.362	-0.221	-0.146	-1.450	0.155
Ethnic Fractionalization	-0.571	-0.464	-0.308	-3.350	0.002

$R = 0.859$
 $R^2 = 0.737$
 R^2 (adjusted) = 0.705
 $N = 47$

Table 4.4: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnoracial Differentiation on Welfare Expenditures.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	0.757	0.430	0.331	3.054	0.004
LogLevel of Democracy	0.577	0.454	0.329	3.260	0.002
LogLabour Organization	0.581	0.498	0.331	3.681	0.001
Party Fractionalization	0.362	-0.300	-0.188	-2.302	0.051
Ethnoracial Differentiation	-0.570	-0.582	-0.375	-4.580	0.000

$R = 0.882$
 $R^2 = 0.779$
 $R^2 \text{ (adjusted)} = 0.752$
 $N = 47$

of all the independent variables, although GNP, labour organization, and level of democracy are not far behind. All five independent variables explain at least 75.2 per cent of the variance in welfare spending. It thus appears that when we use a very sensitive measure of ethnic heterogeneity and take racial divisions into account as well, the level of welfare spending is influenced more by ethnic and racial cleavages than by anything else. Putting it another way, we might say that those societies that have racial divisions in addition to important ethnic divisions are more prone to take a negative view of welfare spending than any other type of society.

Table 4.5 reports the results using Ethnic Heterogeneity 3 as the main independent variable. Recall that in this instance religious divisions, as measured by Vanhanen, are added to both Ethnic Fractionalization and racial divisions to produce a still more comprehensive measure. As can be seen, this variable produces the strongest results yet, although they are only slightly

Table 4.5: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on Welfare Expenditures.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	0.757	0.393	0.290	2.735	0.009
LogLevel of Democracy	0.577	0.495	0.355	3.646	0.001
LogLabour Organization	0.581	0.531	0.348	4.015	0.000
Party Fractionalization	0.362	-0.331	-0.203	-2.248	0.030
Ethnic Heterogeneity 3	-0.593	-0.623	-0.408	-5.106	0.000

$R = 0.892$
 $R^2 = 0.795$
 $R^2 \text{ (adjusted)} = 0.770$
 $N = 47$

stronger than the results for Ethnoracial Differentiation. The conclusion is, again, that when there are superimposed categories of social cleavage in a society, there is an especially strong inhibition of welfare spending.

In addition to these world-wide analyses, I explored the possibility of regional variations in the impact of ethnic heterogeneity on welfare spending. There were too few cases to use multiple regressions, so Ethnoracial Differentiation was run against welfare spending for Africa, Asia, Latin America, and the developed countries. The correlations (Pearson r) were -0.641 for Africa, -0.304 for Asia, -0.582 for Latin America, and -0.374 for the developed countries. Ethnicity seems to be most important in Africa and least important in Asia. I also ran Ethnic Heterogeneity 2 against welfare spending for the Eastern European countries (there were too few cases for any of the other ethnicity measures), and the correlation was a huge -0.866 ! The tremendous importance of ethnic cleavages in this part of the world is, of course, very well known. However, since this correlation is based on only five cases, it must be interpreted very cautiously. These correlations were run again using Ethnic Heterogeneity 3 in place of Ethnoracial Differentiation, and they were approximately the same. The correlation for Africa was -0.564 , for Asia -0.260 , for Latin America -0.570 , and for the First World -0.452 . The pattern is the same with the exception of Latin America, which now moves slightly ahead of Africa. There were not enough cases to examine the Eastern European countries.

All of the regression analyses were run again for health spending. In every case, ethnic heterogeneity turned out to be a very weak predictor of public spending on health care. Since the results are so weak, I present only those that were the strongest (Table 4.6). The full model explains only 11 per cent of the variance, and the best model explains just 14 per cent of the variance. In this model, GNP is the best predictor, level of democracy is second, and ethnic heterogeneity is third. However, none of these variables achieve statistical significance, and the percentage of the variance explained by each is very small. Clearly, ethnic heterogeneity has only a very minor effect on a society's level of public spending on health.

Making the level of public spending on education the dependent variable produced even weaker results than in the case of public spending on health. As Table 4.7 shows, not only is Ethnic Heterogeneity 3 virtually uncorrelated with education spending, but what little correlation it does show is pointing in the wrong direction. Level of democracy and labour organization are more highly correlated, but they are also pointing in the wrong direction! All five independent variables together explain only between 7 and 18 per cent of the variance in education spending. These extremely weak results tell us that the increasing devotion of resources to education is being determined mainly by factors effectively uncorrelated with ethnoracial heterogeneity. This is consistent with the view that mass educational systems are primarily nation-building projects,³⁰ as well as the view that the expansion of

Table 4.6: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on Health Expenditures.

A. Full Model					
<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	0.397	0.224	0.307	1.472	0.149
LogLevel of Democracy	0.340	0.089	0.110	0.574	0.569
LogLabour Organization	0.126	-0.098	-0.107	-0.629	0.533
Party Fractionalization	0.288	0.075	0.086	0.481	0.633
Ethnic Heterogeneity 3	-0.291	-0.126	-0.127	-0.810	0.423
R = 0.456					
R ² = 0.208					
R ² (adjusted) = 0.111					
N = 47					
B. Best Model					
<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	0.397	0.207	0.243	1.390	0.172
LogLevel of Democracy	0.340	0.151	0.166	1.033	0.322
Ethnic Heterogeneity 3	-0.291	-0.155	-0.153	-1.027	0.310
R = 0.444					
R ² = 0.197					
R ² (adjusted) = 0.141					
N = 47					

Table 4.7: The Effects of Gross National Product, Level of Democracy, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on Educational Expenditures.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
LogGross National Product	-0.227	0.036	0.049	0.228	0.821
LogLevel of Democracy	-0.240	-0.270	-0.351	-1.796	0.080
LogLabour Organization	-0.295	-0.280	-0.326	-1.870	0.069
Party Fractionalization	0.003	0.247	0.296	1.629	0.111
Ethnic Heterogeneity 3	0.074	0.059	0.061	0.380	0.706
R = 0.418					
R ² = 0.175					
R ² (adjusted) = 0.074					
N = 47					

enrolments in secondary and higher education is driven mainly by a process of the inflation of educational credentials.³¹ At any rate, ethnic heterogeneity appears to play no role in the process.

CONCLUSIONS AND LESSONS FOR MULTICULTURALISTS

In reflecting on the results as a whole, it is clear that ethnic heterogeneity is a very important predictor of a society's level of welfare spending. This is particularly the case when we consider the full range of social cleavages – ethnic, racial, and religious – that characterize a society. On the other hand, ethnic heterogeneity is a poor predictor of health spending and is essentially unrelated to the level of educational expenditures. Why the difference? Expenditures on welfare in ethnically heterogeneous societies are likely to be seen by the members of some ethnic groups as going primarily to groups other than their own, and thus tend to be disfavoured. Welfare expenditures are public goods, but in a restricted way: they only pertain to some segments of the population. Health and educational expenditures, on the other hand, are public goods that can more fully benefit everyone, including the members of all ethnic groups. Under these circumstances, ethnic heterogeneity has little or no effect on these expenditures. Unlike welfare expenditures, health and educational expenditures are fully, rather than partially, public goods.

I would like to end with some lessons for multiculturalists. Today we are bombarded by messages of the wonders of multiculturalism. We are urged that diversity, especially racial and ethnic diversity, is a good thing in and of itself. Yet the results of this study suggest that this is not necessarily the case. One negative outcome of ethnic and racial diversity is that it severely handicaps the ability of a society to provide minimum standards of living for its least advantaged members. To the extent that we regard provision of such a standard as a good thing, then multiculturalism should be judged a bad thing. In addition to the preceding analyses, I calculated the correlation coefficient between level of economic development (as measured by GNP) and Ethnoracial Differentiation. It turns out to be -0.438 . This correlation is reduced to -0.247 when the level of democracy and the degree of labour organization, two strong correlates of economic development, are removed. Nevertheless, a correlation remains, and the conclusion is that ethnic heterogeneity inhibits economic development as well as welfare spending.

NOTES

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4. P.L. van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, 1981).

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19. *Ibid.*
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21. T. Vanhanen, 'An Exploratory Comparative Study of the Relationship Between Ethnic Heterogeneity and Welfare Politics'. Paper prepared for the conference 'Welfare, Ethnicity, and Altruism', Bad Homburg, Germany, 1999.
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27. *Ibid.*, p. 84.
28. T. Vanhanen, *Politics of Ethnic Nepotism*.
29. The precise method of calculating the subvariables and the composite variable is explained in *ibid.*
30. J.W. Meyer, F.O. Ramirez, R. Robinson and J. Boli-Bennett, 'The World Educational Revolution, 1950-1970', *Sociology of Education*, 50 (1977), pp. 242-58; J. Boli, F.O. Ramirez, and J.W. Meyer, 'Explaining the Origins and Expansion of Mass Education', *Comparative Education Review*, 29 (1985), pp. 145-70.
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APPENDIX 4.1: FULL LIST OF COUNTRIES USED IN THE ANALYSES

- | | |
|--------------------------|---|
| 1. Canada | 51. South Africa |
| 2. Japan | 52. Turkey |
| 3. Norway | 53. Syrian Arab Republic |
| 4. Switzerland | 54. Sri Lanka |
| 5. Sweden | 55. Ecuador |
| 6. USA | 56. Paraguay |
| 7. Australia | 57. China |
| 8. France | 58. Philippines |
| 9. Netherlands | 59. Peru |
| 10. United Kingdom | 60. Oman |
| 11. Germany | 61. Dominican Republic |
| 12. Denmark | 62. Iraq |
| 13. Finland | 63. Jordan |
| 14. Austria | 64. Tunisia |
| 15. Belgium | 65. Lebanon |
| 16. New Zealand | 66. Iran, Islamic Republic of |
| 17. Israel | 67. Gabon |
| 18. Italy | 68. Algeria |
| 19. Ireland | 69. El Salvador |
| 20. Spain | 70. Nicaragua |
| 21. Hong Kong | 71. Indonesia |
| 22. Greece | 72. Guatemala |
| 23. Czechoslovakia | 73. Honduras |
| 24. Hungary | 74. Vietnam |
| 25. Uruguay | 75. Morocco |
| 26. Trinidad and Tobago | 76. Lesotho |
| 27. Poland | 77. Zimbabwe |
| 28. USSR | 78. Bolivia |
| 29. Korea, Republic of | 79. Egypt |
| 30. Bulgaria | 80. Myanmar |
| 31. Chile | 81. Congo |
| 32. Yugoslavia | 82. Kenya |
| 33. Portugal | 83. Madagascar |
| 34. Singapore | 84. Papua New Guinea |
| 35. Costa Rica | 85. Zambia |
| 36. Argentina | 86. Cameroon |
| 37. Venezuela | 87. Ghana |
| 38. Kuwait | 88. Pakistan |
| 39. Mexico | 89. India |
| 40. Mauritius | 90. Namibia |
| 41. Albania | 91. Côte d'Ivoire |
| 42. Malaysia | 92. Haiti |
| 43. Colombia | 93. Tanzania, United Republic of |
| 44. United Arab Emirates | 94. Zaire |
| 45. Brazil | 95. Nigeria |
| 46. Romania | 96. Laos, People's Democratic Republic of |
| 47. Panama | 97. Liberia |
| 48. Jamaica | 98. Togo |
| 49. Saudi Arabia | 99. Uganda |
| 50. Thailand | |

- | | |
|-------------------------------|-------------------|
| 100. Rwanda | 111. Mozambique |
| 101. Bangladesh | 112. Bhutan |
| 102. Cambodia | 113. Mauritania |
| 103. Senegal | 114. Benin |
| 104. Ethiopia | 115. Chad |
| 105. Angola | 116. Somalia |
| 106. Nepal | 117. Mali |
| 107. Malawi | 118. Burkina Faso |
| 108. Burundi | 119. Afghanistan |
| 109. Central African Republic | 120. Sierra Leone |
| 110. Sudan | 121. Guinea |

An Exploratory Comparative Study of the Relationship between Ethnic Heterogeneity and Welfare Politics

Tatu Vanhanen

INTRODUCTION

The theory of ethnic nepotism, based on sociobiological theories of kin selection and inclusive fitness, can be used to explain the behaviour of people in many kinds of situations. I have used ethnic nepotism to explain ethnic conflicts in India and in the world.¹ In this paper, my intention is to introduce my measures of ethnic heterogeneity and to explore, although only as a preliminary, to what extent ethnic heterogeneity is related to some aspects of welfare politics at the national level.

ETHNIC NEPOTISM AS AN EXPLANATORY FACTOR

Pierre L. van den Berghe, who introduced the term 'Ethnic Nepotism' in his book *The Ethnic Phenomenon* (1981), extended the pattern of nepotistic behaviour from the level of families to the level of large ethnic groups. He argued that ethnicity is defined in the last analysis by common descent and that ethnocentrism and racism are extended forms of nepotism — the propensity to favour kin over non-kin.² According to his theory, 'all social organisms are biologically programmed to be nepotistic, i.e. to behave favourably (or 'altruistically') to others in proportion to their real or perceived degree of common ancestry.'³

J. Philippe Rushton formulated a genetic similarity theory, according to which 'genetically similar people tend to seek one another out and to provide mutually supportive environments such as marriage, friendship, and social groups.'⁴ He assumed that genetic similarity theory has implications for within-group altruism: 'The more homogeneous the group, the more likely it is that feelings of in-group solidarity and patriotism may arise.'⁵

I used ethnic nepotism to explain the universality of ethnic conflicts in India and assumed, in the case of the United States, that 'the ethnic nepotism of the white majority makes it unwilling to introduce an electoral system

which would provide equal opportunities for various ethnic and other minorities to get their representatives elected into governmental bodies.⁶ Further, I argued that according to 'a Darwinian interpretation of politics, all power holders tend to use power principally for their own advantage. It means that those groups which do not effectively participate in the use of governmental power, are excluded from many fruits of power, too, or they get only minor portions of the spoils of power.' I added that it would be interesting to examine the content of policies from this perspective. For example, in the United States, 'the lack of a general social security system and the neglect of public transportation systems may reflect the ethnic interests of the white majority and the interests of the dominant affluent sections of the population. These are also reflected in some characteristics of the American tax system and the great differences in the quality of educational services.' I continued that in 'West European countries it has been much easier to establish social security systems covering the whole populations because their populations have been ethnically much more homogeneous than the population of the US.'⁷ Martin Gilens' study indicates that race matters in welfare policies in the United States. He concludes that 'racial considerations are the single most important factor shaping whites' views of welfare'.⁸

It is interesting to extend the application of the theory of ethnic nepotism from ethnic conflicts 'to the quieter yet significant issue of welfare politics and economies' as Frank Salter suggests.⁹ There are good reasons to expect that it is much more difficult to develop and maintain welfare systems in ethnically heterogeneous societies than in more homogeneous ones. Alberto Alesina, Reza Baqir, and William Easterly's study shows that ethnic fragmentation is negatively related to the share of local spending in the United States.¹⁰ The theory of ethnic nepotism provides a theoretical explanation for this phenomenon. People are more willing to give their tax money to relatives than to strangers. Unfortunately, most researchers who study welfare politics are still unaware of the existence and potential usefulness of the theory of ethnic nepotism.

Of course, it will not be easy to apply the theory of ethnic nepotism to the study of welfare politics. We should formulate testable hypotheses, operationalize hypothetical concepts into empirical variables, and find reliable empirical data on variables. Another problem concerns the definition of ethnic groups and ethnic cleavages. How are we to define ethnic groups and to decide which of them are relevant from the perspective of hypotheses? The testing of hypotheses on the effects of ethnic fragmentation to welfare politics presupposes that we have data on ethnic fragmentation and on welfare policies from different countries, or from ethnically different administrative areas within a state. As I am qualified to compare countries, I try to test assumptions on the effects of ethnic fragmentation to welfare politics by macro-level data covering as many countries as possible.

On the basis of the arguments discussed above, it is reasonable to hypothesize that, *at the approximately same level of socio-economic development, central governments of ethnically relatively homogeneous countries are willing to spend more money on welfare policies than central governments of ethnically heterogeneous countries.* The difference should be clear and linear. The testing of this hypothesis presupposes that we can measure the variation of ethnic heterogeneity among countries and that we find relevant data on the budget expenditure on welfare policies. It would be even better if it were possible to find data that indicate how state expenditure on social security and welfare and education have been distributed among different ethnic groups. Such data would directly indicate whether some ethnic groups have been favoured and some others discriminated against.

INDEX OF ETHNIC HETEROGENEITY (EH)

For the purposes of my study of ethnic conflicts and ethnic nepotism, I formulated an Index of Ethnic Heterogeneity (EH), which combines three types of ethnic cleavages, and gathered empirical data on variables from 183 contemporary states.¹¹ My measurement of ethnic heterogeneity is based on the idea that ethnicity can be defined by common descent and that ethnic groups are extended family groups.¹² Many social scientists have emphasized the crucial significance of cultural characteristics in their definitions of ethnicity and ethnic groups. John Markakis (1993) argues that the common denominator of most definitions of ethnic identity is culture and that ethnic groups are social constructs.¹³ Ted Robert Gurr rejects primordial definitions of ethnicity and defines ethnic groups as psychological communities 'whose core members share a distinctive and enduring collective identity based on cultural traits and lifestyles that matter to them and to others with whom they interact'.¹⁴ Anthony Giddens claims that ethnic differences 'are wholly learned'.¹⁵ These are extreme cultural interpretations. Many other researchers combine cultural and primordial characteristics or emphasize a primordial origin of ethnicity. Donald L. Horowitz' concept of ethnicity embraces differences identified by colour, language, religion, or some other attribute of common origin; it covers tribes, races, nationalities and castes.¹⁶ Rodolfo Stavenhagen stresses the mixed origin of ethnicity. According to his definition, 'ethnic groups are historically given collectivities which have both objective and subjective characteristics, that is, their members acknowledge sharing common traits such as language, culture or religion, as well as a sense of belonging'.¹⁷ It is true that cultural characteristics differentiate ethnic groups, but cultural markers vary from case to case, whereas it is common for all ethnic groups that they share common ancestry. Therefore, I think that it is justified to define ethnic groups as extended kin-groups.

There are many types of ethnic groups that differ from each other by nationality, language, religion, tribe, caste, or some other cultural characteristic. Some of these groups are old ones and some others are just-emerging new ethnic groups. Besides, the scope of ethnic groups may vary from the level of nuclear families to the level of *Homo sapiens*. Consequently, it is not easy to decide what ethnic divisions and ethnic groups should be taken into account in the measurement of ethnic heterogeneity. I decided to focus on three types of ethnic divisions that are common in all parts of the world:

1. Ethnic groups based on racial differences.
2. Ethnic groups based on linguistic, national, or tribal differences, or on any combination of them.
3. Ethnic groups based on stabilized old religious communities.

It is assumed that within each category ethnic groups differ from each other genetically to some extent in the sense that the members of an ethnic group are genetically more related to each other than to the members of other ethnic groups.

I have attempted to take into account ethnic divisions that divide the population genetically into clearly different groups. The period of time the two groups have been separated from each other to endogamous groups can be used as an approximate measure of genetic distance.¹⁸ The longer the period of endogamous separation, the more the two groups have had time to differentiate from each other genetically. From this perspective, ethnic cleavages vary greatly. It is evident that the greatest genetic distances are between major geographical populations or racial groups. Such genetic distances are tens of thousands of years. Genetic distances between linguistic, national, or tribal groups are often one or several thousands of years, whereas genetic distances between old religious communities are usually much shorter, some hundreds of years or one or two thousands of years. Recent religious divisions were excluded because they have not yet had enough time to constitute genetically clearly different ethnic groups. Of these three types of ethnic cleavages, old religious cleavages are most problematic for the reason that, in several cases, religious communities cross racial, national, and linguistic boundaries. Therefore, all religious communities do not fulfil the genetic criteria of ethnic groups.

In each category, the percentage of the largest ethnic group was used to measure the degree of ethnic heterogeneity. The degree was calculated by subtracting the percentage of the largest ethnic group from 100 per cent. The remainder represents the share of the smaller ethnic groups. The three indicators of (1) racial, (2) linguistic, national, or tribal, and (3) religious heterogeneity were combined into an Index of EH by adding the three reverse percentages (the combined percentages of the smaller ethnic groups).

I assume that the higher the index value is, so the more ethnically divided is the country. I also assume that the degree of ethnic heterogeneity indicates the significance of ethnic nepotism in national politics. In other words, the Index of EH can be used as an indirect indicator of ethnic nepotism. Empirical data on ethnic divisions in 183 contemporary countries are given in Appendix 5.1. More detailed data are given and documented in my book on ethnic conflicts and ethnic nepotism (except 35 small countries whose population was less than one million in 1990). Besides, data on all 183 countries are given and documented on the web.¹⁹ Data were gathered from many international and national sources. The most frequently used international and regional sources include *Europa World Year Book* (1996); Minority Rights Group International, *World Directory of Minorities* (1997); Kurian, *Encyclopedia of the Third World* (1987); Morrison *et al.*, *Black Africa: A Comparative Handbook* (1989); Philip's *Encyclopedic World Atlas* (1993); Central Intelligence Agency, *The World Factbook 1991-92* (1992); *Cambridge Encyclopedia of Latin America and the Caribbean* (1992); and Banks *et al.*, *Political Handbook of the World 1997* (1997).

WELFARE POLITICS RELATED TO ETHNIC NEPOTISM

The idea of my comparative study of ethnic conflicts and ethnic nepotism was to explore to what extent it might be possible to explain the universality of ethnic conflicts in ethnically divided societies, and the variation in the degree of ethnic conflicts by our assumed behavioural predisposition or epigenetic rule to ethnic nepotism. The results show that the degree of ethnic heterogeneity explains approximately half of the variation in the estimated degree of ethnic conflicts.²⁰ In that study, ethnic conflicts, not welfare policies, constitute the dependent variable, although attention was paid to ethnic inequalities and discrimination in estimates concerning the degree of institutional ethnic conflicts. It is also reasonable to assume that ethnic inequalities and discrimination are reflected in welfare policies. However, because my data and estimations on ethnic inequalities and discrimination are combined with several other factors indicating institutional conflicts, it is not justifiable to use the results of that study to test the hypothesis on the effects of ethnic heterogeneity on the content of welfare politics. However, it is plausible to correlate the Index of EH as an indicator of ethnic nepotism with other possible variables indicating more directly ethnic inequalities and discrimination, as well as with variables indicating the content or extent of welfare politics. In this paper, my intention is to use EH for this purpose, and to test the hypothesis by various available data on ethnic inequalities and discrimination and welfare politics.

SOCIAL AND ECONOMIC EQUALITY OF ETHNIC MINORITIES

The question 23 on 'Social and economic equality of ethnic minorities' in the data compilation of Charles Humana's *World Human Rights Guide* (1992) is relevant from the perspective of this paper. His data compilation covers 103 countries that are the same as those in my comparative study. The assembled material for each indicator is graded into four categories or levels. The grades or categories are indicated on the questionnaires as YES, yes, no, and NO. I gave to these grades of ordinal-level measurement numerical values 1 (YES), 2 (yes), 3 (no), and 4 (NO), which makes it possible to correlate them with my Index of EH and other alternative explanatory variables. These numerical data on Humana's grades are given in Appendix 5.1; because Humana's grades indicate the decreasing level of social and economic equality of ethnic minorities, *they should correlate positively with EH*.

Besides, I wanted to check the relationship between EH and Humana's grades by using alternative explanatory variables indicating some aspects of socio-economic development and the level of democratization. I used Real GDP per capita (PPP\$) and Human Development Index (HDI) in 1994 to measure the level of socio-economic development and the Index of Democratization (ID) in 1993 to measure differences in the level of democratization. Data on Real GDP per capita and HDI are from UNDP's *Human Development Report 1997* (Table 5.1), and data on democratization from my book *Prospects of Democracy: A Study of 172 countries*.²¹ Data on these variables are given in Appendix 5.1. As many researchers have assumed that ethnic conflicts and discrimination decrease when the level of socio-economic development rises, it is reasonable to hypothesize that these alternative explanatory variables should correlate negatively with Humana's grades. It is also interesting to see whether Humana's grades are negatively correlated with the level of democratization. These alternative hypotheses were tested

Table 5.1: Humana's Grades (question 23) Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in the Comparison Group of 103 Countries.

Variable	Racial Divisions 2	N/L/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	Humana grades 8
1. EH	0.349	0.852	0.611	-0.349	-0.476	-0.181	0.434
2. Racial divisions		-0.025	-0.068	-0.079	-0.006	-0.035	0.092
3. National, linguistic, tribal			0.364	-0.292	-0.479	-0.133	0.385
4. Religious divisions				-0.262	-0.340	-0.201	0.334
5. Real GDP per capita 1994					0.762	0.456	-0.102
6. HDI 1994						0.393	-0.131
7. ID 1993							-0.144
8. Humana's grades							

by empirical evidence in a comparison group of 103 countries. The results of correlation analysis are given in Table 5.1.

The results of correlation analysis indicate that Humana's grades are positively correlated with the Index of EH and its three components as hypothesized, but the relationships are not strong. EH explains only 18.6 per cent of the variation in Humana's grades. In the cases of Real GDP, HDI, and ID, correlations are negative as hypothesized, but they are much weaker than in the case of EH. The explained part of variation in Humana's grades is not more than 1, 2, and 7 per cent respectively. When GDP, HDI, and ID together with EH were used to explain the variation in Humana's grades, the explained part of variation increased from 18.6 per cent (EH alone) to 20.9 per cent, or by 2.3 percentage points. These observations lead to the conclusion that Humana's grades of the social and economic equality for ethnic minorities are nearly independent from the level of socio-economic development and the degree of democratization, whereas the explanatory power of EH is clearly much greater. Figure 5.1 illustrates the results of regression analysis, in which the Index of EH is used to explain the variation in Humana's grades. It shows that the relationship between the two variables

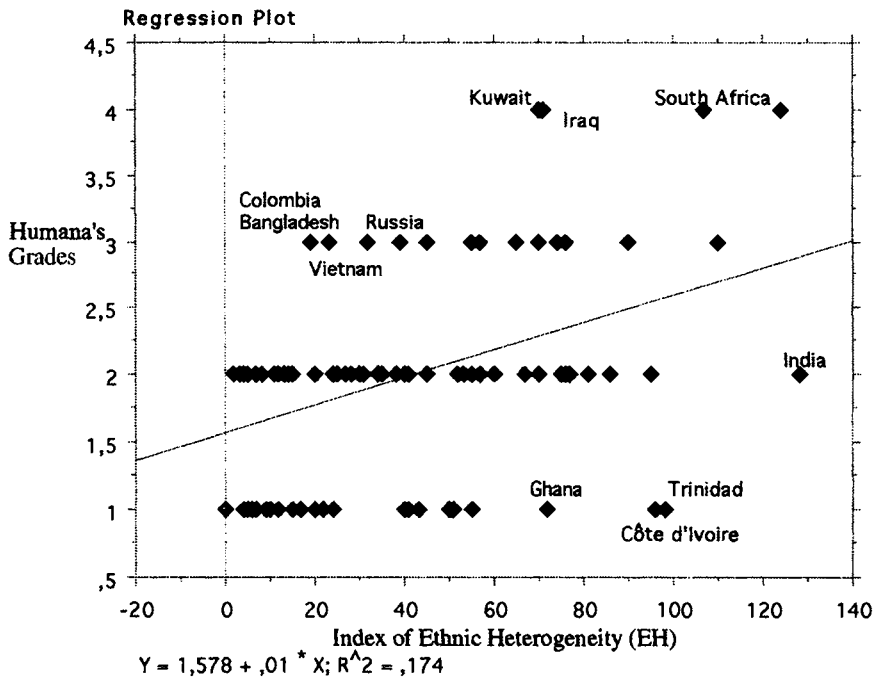


Figure 5.1: The Results of Regression Analysis of Humana's Grades on the Index of Ethnic Heterogeneity in the Comparison Group of 103 Countries

is weak. Some of the countries that deviate the most extremely are named in Figure 5.1.

SOCIAL SECURITY AND WELFARE

Statistical data on central government expenditure on housing, social security and welfare are given in Table 10 of the *World Development Report 1995*. Statistics on social security and welfare are given in Tables 18 and 35 of the *Human Development Report 1997*. Additional data on public expenditure on basic social services as percentage of GDP, and expenditures on social security as percentage of total government expenditure, are published in *Social Indicators of Development 1996*, making it possible to test the original hypothesis more directly. Unfortunately, these data on social security and welfare expenditures are not available for all countries. The data given in *World Development Report 1995* are from years 1980 and 1993. Together they cover 93 countries. The data given in *Human Development Report 1997* concern years 1980 and 1992–95. Together they cover 106 countries. The data and estimates given in *Social Indicators of Development 1996* are from the years 1980–85 and 1989–94. The estimates about public expenditure on basic social services as a percentage of GDP cover 80 countries, and data on expenditures on social security as a percentage of total government expenditure cover 117 countries. All available data on these variables are given in Appendix 5.1.

It is reasonable to assume that if central governments in ethnically heterogeneous countries are less willing to distribute tax money for social security and welfare than in ethnically more homogeneous countries, *central government expenditure on social security and welfare should be negatively correlated with the degree of EH*. These data concern welfare politics directly, but they do not disclose how welfare expenditure was distributed among different ethnic groups. Besides, the validity and reliability of these variables may be poor for the reason that the role of the central governments in welfare politics varies. In some countries, local governments may have a more significant role in welfare politics than the central government. It is also possible that different criteria have been used in the calculation of 'expenditures on social security and welfare'. These factors decrease the comparability of national data on social security and welfare. However, I think that it is plausible to make some preliminary conclusions based on the information given in the above-mentioned sources.

Another problem in the use of these data is that the relative share of central government expenditure on social security and welfare may depend more on the level of socio-economic development and other explanatory factors than on EH. This problem can be solved, at least partially, by dividing the comparison group into different subgroups on the basis of socio-economic and human development, and by analyzing the relationship between EH and

central government expenditure on social security and welfare also in these subgroups and not only in the total world group. In *World Development Report 1995*, countries are divided into four categories by income level (low-income economies, lower-middle-income economies, upper-middle-income economies, and high-income economies). In *Human Development Report 1997*, developing countries are divided into three categories by HDI rank (high human development, medium human development, and low human development) and industrial countries into two categories by HDI rank (high human development and medium human development). I am going to make separate analyses in these subgroups, although the small number of countries in several subgroups decreases the reliability of results.

Total World Groups

I shall analyse first how different variables of expenditure on social security and welfare are correlated with EH and the alternative explanatory variables in the total world groups. According to the central hypothesis, *expenditure on social security and welfare should be negatively correlated with the Index of EH and its components* because it is more difficult for the governments in ethnically heterogeneous countries to grant money for welfare purposes than in ethnically homogeneous countries. On the other hand, it seems reasonable to assume that *expenditure on social security and welfare is positively correlated with the level of socio-economic development (and human development)* because governments in socio-economically developed countries can provide more services for people than governments in poor countries. Further, it is reasonable to assume *the level of democratization is positively correlated with expenditure on social security and welfare* because more varied social groups can participate in political decision-making and thus further their own interests in democratically ruled countries than in autocratically ruled countries.

Let us start from central government expenditure on social security and welfare as a percentage of total expenditure (WD-93) given in *World Development Report 1995*. In Table 5.2, the correlations of WD-93, with the explanatory variables as well as the intercorrelations of all variables, are presented. All intercorrelations are given for the sake of comparison.

WD-93 is negatively correlated with EH and also with its three components as hypothesized, but these correlations are relatively weak. EH does not explain more than 19.8 per cent of the variation in WD-93. Correlations between WD-93 and GDP and HDI are considerably stronger. GDP per capita alone explains 55 per cent of the variation in WD-93. When GDP per capita, HDI and ID-93 are used together to explain variation in WD-93 (multiple regression), the explained part of variation rises to 61.3 per cent. When EH is added to the three other explanatory variables, the explained part of variation rises to 63.3 per cent. In other words, the degree of ethnic heterogeneity independently from GDP per capita, HDI, and ID-93

Table 5.2: WD-93 (central government expenditure on social security and welfare as a percentage of total government expenditure), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in the Comparison Group of 93 Countries.

Variable	Racial Divisions 2	N/I/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	WD-93 8
1. EH	0.245	0.844	0.659	-0.317	-0.481	-0.168	-0.445
2. Racial divisions		-0.134	-0.027	0.003	0.171	0.005	-0.040
3. National, linguistic, tribal			0.363	-0.294	-0.552	-0.140	-0.431
4. Religious divisions				-0.238	-0.338	-0.174	-0.289
5. Real GDP per capita 1994					0.787	0.431	0.739
6. HDI 1994						0.374	0.721
7. ID 1993							0.445
8. WD-93							

explains only 2 per cent of the variation in WD-93. This result means that, in the total world group, empirical evidence supports only slightly the hypothesis on the effects of ethnic heterogeneity to welfare policies. *The level of socio-economic development seems to be a much more significant factor.* This result leaves open the possibility that the level of ethnic heterogeneity might be a more significant factor in the subgroups of countries at approximately the same level of socio-economic development. Figure 5.2 illustrates the weak relationship between EH and WD-93 in this comparison group of 93 countries.

Let us next see how other indicators of expenditure on social security and welfare correlate with EH and other explanatory variables. The correlations given in *Human Development Report 1997* between HD-95 (percentage of central government expenditure on social security and welfare) and EH and other explanatory variables are presented in Table 5.3.

The pattern of correlations is similar as in Table 5.2, but most correlations between HD-95 and explanatory variables are somewhat weaker than the correlations between WD-93 and explanatory variables. GDP and HDI are again most strongly correlated with the dependent variable. Taken together, GDP per capita, HDI, and ID-93 explain 51.9 per cent of the variation in HD-95. When EH is added to these explanatory variables, the explained part of variation rises to 54.6 per cent. It means that EH explains 2.7 per cent of the variation in HD-95 independently from GDP per capita, HDI, and ID. It is not much. The level of socio-economic development together with the degree of democratization explains the major part of the variation in HD-95.

The correlations between PE-GDP (public expenditure on basic social services as percentage of GDP) given in *Social Indicators of Development 1996* and EH and other explanatory variables are presented in Table 5.4.

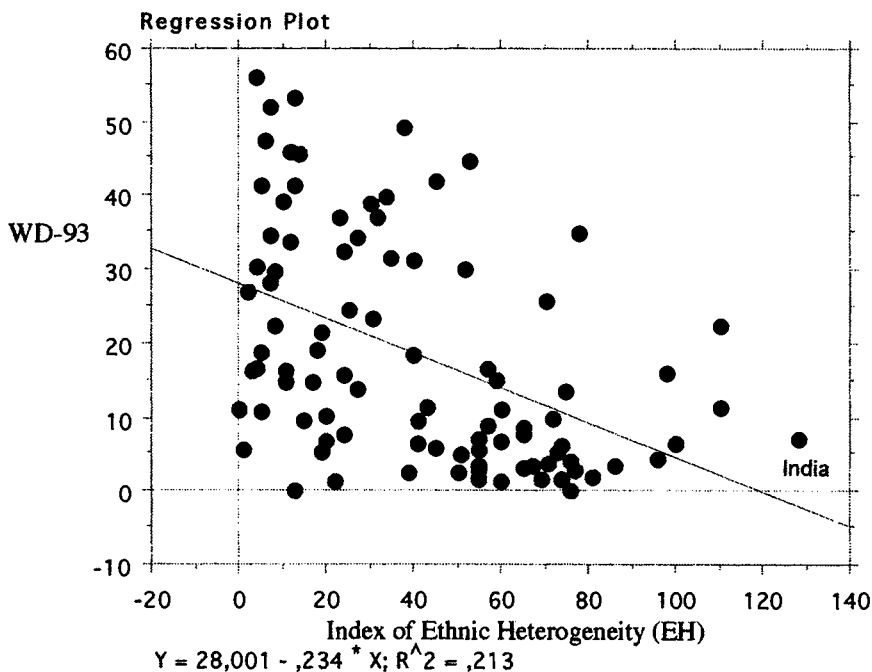


Figure 5.2: The Results of Regression Analysis of WD-93 on the Index of Ethnic Heterogeneity in the Comparison Group of 93 Countries

PE-GDP is correlated negatively with EH and its components as hypothesized, but all correlations are near zero. In this case, GDP per capita, HDI, and ID-93 do not provide better explanations for the variation in PE-GDP. All correlations are near zero. Together they explain only 5.1

Table 5.3: HD-95 (percentage of central government expenditure on social security and welfare), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in the Comparison Group of 106 Countries.

Variable	Racial Divisions 2	N/L/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	HD-95 8
1. EH	0.489	0.819	0.734	-0.268	-0.344	-0.145	-0.387
2. Racial divisions		0.059	0.178	-0.073	0.106	-0.029	-0.166
3. National, linguistic, tribal			0.412	-0.240	-0.472	-0.112	-0.345
4. Religious divisions				-0.217	-0.218	-0.158	-0.270
5. Real GDP per capita 1994					0.764	0.401	0.656
6. HDI 1994						0.354	0.653
7. ID 1993							0.446
8. HD-95							

Table 5.4: PE-GDP (public expenditure on basic social services as a percentage of GDP), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in the Comparison Group of 80 Countries.

Variable	Racial Divisions 2	N/I/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	PE-GDP 8
1. EH	0.525	0.834	0.658	-0.163	-0.223	-0.215	-0.186
2. Racial divisions		0.139	0.148	0.067	0.113	0.058	-0.075
3. National, linguistic, tribal			0.326	-0.288	-0.366	-0.313	-0.179
4. Religious divisions				0.000	-0.079	-0.090	-0.113
5. Real GDP per capita 1994					0.756	0.503	0.158
6. HDI 1994						0.588	0.198
7. ID 1993							0.203
8. PE-GDP							

per cent of the variation in PE-GDP. When EH is used together with GDP per capita, HDI, and ID-93, the explained part of the variation rises to 6.9 per cent. In this comparison group, more than 90 per cent of the variation in PE-GDP remained unexplained. It may be that these data on public expenditure on basic social services, given in *Social Indicators of Development 1996*, are highly defective in some points.

The last variable, SS-TGE, concerns data on expenditures on social security as percentage of total government expenditure given in *Social Indicators of Development 1996*. Correlations are given in Table 5.5.

The pattern of correlations in Table 5.5 is approximately the same as in Tables 2 and 3. EH has a clear negative correlation with SS-TGE, but GDP per capita and HDI have stronger correlations. Real GDP per capita, HDI, and ID-93, taken together (multiple regression), explain 45.8 per cent of the

Table 5.5: SS-TGE (expenditure on social security as a percentage of total government expenditure), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in the Comparison Group of 117 Countries.

Variable	Racial Divisions 2	N/I/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	SS-TGE 8
1. EH	0.570	0.825	0.728	-0.268	-0.381	-0.172	-0.378
2. Racial divisions		0.160	0.231	-0.111	0.025	-0.065	-0.182
3. National, linguistic, tribal			0.416	-0.233	-0.498	-0.129	-0.348
4. Religious divisions				-0.219	-0.238	-0.179	-0.263
5. Real GDP per capita 1994					0.753	0.437	0.614
6. HDI 1994						0.390	0.629
7. ID 1993							0.409
8. SS-TGE							

variation in SS-TGE. When EH is added to these explanatory variables, the explained part of variation rises to 48.1 per cent.

The three sets of data indicating expenditure on social security and welfare as percentage of total central government expenditure have produced similar results. In the total world groups, the extent of welfare politics seems to be strongly correlated with the level of socio-economic development and also with the degree of democratization, although not as strongly. As hypothesized, the level of ethnic heterogeneity is negatively correlated with the indicators of welfare politics, but this relationship is so weak that it does not provide any significant explanation for the variation in the variables WD-93, HD-95, and SS-TGE independently from other explanatory variables. An interesting question is how these indicators of welfare politics are related to EH in the groups of countries that are approximately at the same level of socio-economic development. According to the original hypothesis, central governments of ethnically relatively homogeneous countries are assumed more willing to use money for welfare policies than central governments of ethnically heterogeneous countries. I hope to be able to test this hypothesis preliminary by carrying out the same correlation analyses in the four subgroups of countries presented in *World Development Report 1995* (Table 10), and in the five subgroups of countries given in *Human Development Report 1997* (Tables 18 and 35).

Subgroups of Socio-Economically Similar Countries

The countries of the world covered by *World Development Report 1995* are divided by income level into four subcategories. The subgroup of low-income economies includes data on social security and welfare from 29 countries, the subgroup of lower-middle-income economies from 27 countries, the subgroup of upper-middle-income economies from 15 countries, and the subgroup of high-income economies from 22 countries. The correlations of EH and other explanatory variables with WD-93 in these four subgroups are given in Table 5.6.

There are significant differences in correlations between the four subgroups. In the category of low-income economies, the hypothesized negative correlation between EH and WD-93 is weak, whereas GDP per capita, HDI, and ID-93 explain 52.5 per cent (multiple regression) of the variation in WD-93 variable.

In the category of lower-middle-income economies, the negative correlation between EH and WD-93 is higher than any of the hypothesized positive correlations between alternative explanatory variables and WD-93. EH explains 21 per cent of the variation in the dependent variable, whereas GDP per capita, HDI, and ID-93, taken together, explain 24.4 per cent of the variation. When EH is added to these three explanatory variables, the explained part of variation rises to 32.2 per cent, which means that EH

Table 5.6: WD-93 (central government expenditure on social security and welfare as a percentage of total government expenditure), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in Four Subgroups of 93 Countries.

Variable	Racial Divisions 2	N/L/T Divisions 3	Religious Divisions 4	GDP 1994 5	HDI 1994 6	ID-93 7	WD-93 8
1. Low-income economies (N = 29)							
1. EH	-0.123	0.884	0.431	-0.434	-0.490	-0.014	-0.257
2. Racial divisions		-0.178	-0.283	-0.041	0.042	0.462	0.317
3. National, linguistic, tribal			0.079	-0.385	-0.482	-0.092	-0.310
4. Religious divisions				-0.297	-0.305	-0.222	-0.130
5. Real GDP per capita 1994					0.870	0.334	0.650
6. HDI 1994						0.313	0.581
7. ID 1993							0.518
8. WD-93							
2. Lower-middle-income economies (N = 27)							
1. EH	0.423	0.886	0.246	-0.394	-0.387	-0.213	-0.458
2. Racial divisions		0.022	-0.423	-0.087	0.102	0.025	-0.209
3. National, linguistic, tribal			0.377	-0.406	-0.548	-0.281	-0.438
4. Religious divisions				-0.129	-0.067	-0.040	-0.042
5. Real GDP per capita 1994					0.830	0.227	0.422
6. HDI 1994						0.312	0.431
7. ID 1993							0.328
8. WD-93							
3. Upper-middle-income economies (N = 15)							
1. EH	0.534	0.818	0.928	0.045	-0.396	-0.236	-0.236
2. Racial divisions		0.020	0.237	-0.027	-0.124	-0.060	-0.137
3. National, linguistic, tribal			0.853	0.012	-0.470	-0.415	-0.247
4. Religious divisions				0.155	-0.298	-0.090	-0.195
5. Real GDP per capita 1994					0.381	0.227	-0.447
6. HDI 1994						0.706	0.030
7. ID 1993							0.256
8. WD-93							
4. High-income economies (N = 22)							
1. EH	0.175	0.918	0.521	0.093	-0.642	-0.716	-0.572
2. Racial divisions		-0.121	0.111	0.324	-0.174	-0.163	-0.192
3. National, linguistic, tribal			0.238	0.911	-0.632	-0.615	-0.404
4. Religious divisions				0.009	-0.452	-0.470	-0.589
5. Real GDP per capita 1994					0.104	-0.172	0.143
6. HDI 1994						0.728	0.666
7. ID 1993							0.673
8. WD-93							

explains, independently from the three other explanatory variables, 7.8 per cent of the variation in WD-93.

In the small category of upper-middle-income economies, all correlations are weak, and, contrary to the hypothesis, GDP per capita is negatively correlated with WD-93. In the category of high-income economies, the negative correlation between EH and WD-93 is stronger than in any other subgroup. It explains 33 per cent of the variation in WD-93, but HDI and ID-93 have even stronger correlations with WD-93. GDP per capita, HDI, and ID-93, taken together, explain 55.3 per cent of the variation in WD-93. The explained part of variation rises only by 0.6 percentage points when EH is added to these three alternative explanatory variables. Although EH is not able to explain variation in the dependent variable independently from the indicators of socio-economic development and democratization, it is interesting to see how the level of EH is related to the expenditure on social security and welfare in single countries in this category of high-income economies. Figure 5.3 illustrates the results of regression analysis in which WD-93 is used as the dependent variable and EH as the independent variable.

We can see from Figure 5.3 that the relationship between EH and WD-93 would disappear completely if Singapore, Kuwait, and United Arab Emirates

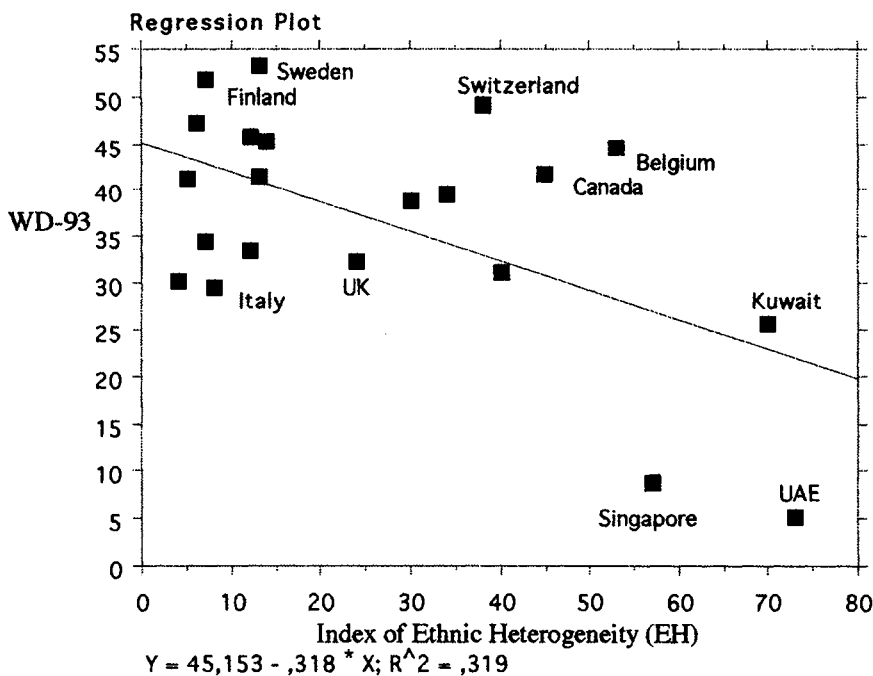


Figure 5.3: The Results of Regression Analysis of WD-93 on the Index of Ethnic Heterogeneity (EH) in the Category of High-Income Economies (N = 22)

were excluded from this group. The degree of EH does not seem to be related to the level of social security and welfare expenditure in the group of Western high-income economies and democracies.

The results of correlation analyses reported in Table 5.6 support only slightly the research hypothesis. The negative relationship between EH and WD-93 is higher than in the total world group in two subgroups and lower in two other subgroups, whereas the hypothesized positive correlations between WD-93 and the three alternative explanatory variables (GDP per capita, HDI, and ID-93) are significantly lower in nearly all subgroups.

Human Development Report 1997 provides a set of data to check the relationship between EH and HD-95 in five subgroups of countries. The results of the same correlation analyses are given in Table 5.7.

The results of correlation analyses presented in Table 5.7 are surprising in many points. The classification of countries into these five categories is based on their HDI values; and developing countries and industrial countries are in different categories. EH and its three components are negatively correlated with HD-95 only in the first category. In the other four categories, the correlations of EH with HD-95 are, contrary to the hypothesis, near zero or clearly positive. This means that the results of these correlation analyses do not support the research hypothesis. Real GDP per capita and HDI do not provide better explanations for the variation in HD-95. In most cases, their correlations with HD-95 are positive as hypothesized, but correlations are near zero. In the fifth category, their correlations with HD-95 are relatively strong but contrary to the hypothesis, negative. However, because the number of countries is very small (seven) in this category, we do not need to pay any serious attention to those correlations. The level of democratization (ID-93) is moderately correlated with HD-95 in the first category, but in the other categories correlations are near zero or negative.

CONCLUSION

The results of empirical analysis, presented and discussed above, lead me to conclude that empirical evidence supports the hypothesis on the effects of EH to welfare politics in most points, but only slightly. The degree of social and economic equality of ethnic minorities tends to be lower in ethnically heterogeneous countries than in ethnically more homogeneous countries, but EH explains only 19 per cent of the variation in Humana's grades. It was assumed that Humana's grades might indirectly indicate differences in welfare politics. It is probable that ethnic groups experiencing discrimination are also discriminated against in the distribution of welfare expenditure. However, Humana's grades do not provide a basis to make any definitive conclusions. We would need variables that measure directly the distribution of public goods among ethnic groups. It is difficult, although not impossible,

Table 5.7: HD-95 (percentage of central government expenditure on social security and welfare), Correlated with EH (Index of Ethnic Heterogeneity) and its Three Components, Real GDP per capita, HDI (Human Development Index), and ID (Index of Democratization) in Five Subgroups of 106 Countries.

<i>Variable</i>	<i>Racial Divisions 2</i>	<i>N/L/T Divisions 3</i>	<i>Religious Divisions 4</i>	<i>GDP 1994 5</i>	<i>HDI 1994 6</i>	<i>ID-93 7</i>	<i>HD-95 8</i>
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Developing countries

Table 5.7A: High human development (N = 23)

1. EH	0.667	0.838	0.781	0.133	-0.172	-0.272	-0.411
2. Racial divisions		0.313	0.311	-0.351	-0.414	0.060	-0.293
3. National, linguistic, tribal			0.506	0.347	-0.487	-0.514	-0.370
4. Religious divisions				0.218	-0.157	-0.074	-0.270
5. Real GDP per capita 1994					0.281	-0.358	-0.172
6. HDI 1994						0.406	0.332
7. ID 1993							0.631
8. HD-95							

Table 5.7B: Medium human development (N = 28)

1. EH	0.596	0.791	0.652	0.086	0.150	0.149	0.045
2. Racial divisions		0.115	0.099	-0.041	0.163	0.380	0.357
3. National, linguistic, tribal			0.396	0.035	-0.110	-0.032	-0.228
4. Religious divisions				0.234	0.364	-0.054	0.007
5. Real GDP per capita 1994					0.682	-0.317	0.053
6. HDI 1994						-0.118	0.265
7. ID 1993							0.096
8. HD-95							

Table 5.7C: Low human development (N = 20)

1. EH	0.289	0.769	0.440	-0.075	-0.216	-0.081	0.063
2. Racial divisions		-0.168	0.282	0.074	-0.102	-0.241	-0.188
3. National, linguistic, tribal			-0.166	0.033	-0.051	0.113	0.284
4. Religious divisions				-0.251	-0.277	-0.220	-0.270
5. Real GDP per capita 1994					0.612	0.437	0.214
6. HDI 1994						0.126	0.070
7. ID 1993							-0.121
8. HD-95							

Industrial countries

Table 5.7D: High human development (N = 28)

1. EH	0.348	0.905	0.117	0.291	0.134	-0.034	0.212
2. Racial divisions		0.010	0.048	0.248	0.254	-0.164	-0.068
3. National, linguistic, tribal			0.165	0.228	0.022	0.027	0.349
4. Religious divisions				0.055	0.123	-0.014	-0.249
5. Real GDP per capita 1994					0.666	0.276	0.508
6. HDI 1994						0.469	0.208
7. ID 1993							0.119
8. HD-95							

Table 5.7: Continued.

1. EH	0.252	0.943	0.989	-0.579	-0.540	-0.797	0.115
2. Racial divisions		-0.217	-0.309	0.634	0.511	0.128	-0.256
3. National, linguistic, tribal			0.895	-0.727	-0.724	-0.744	0.592
4. Religious divisions				-0.542	-0.484	-0.756	0.341
5. Real GDP per capita 1994					0.961	0.504	-0.752
6. HDI 1994						0.418	-0.638
7. ID 1993							-0.537
8. HD-95							

to find such variables and empirical data on them. However, I do not yet have such data.

Various data on central government expenditure on social security and welfare, given in *World Development Report*, *Human Development Report*, and *Social Indicators of Development*, provide direct variables, but they are limited to total expenditure on social security and welfare. Total expenditure does not tell how it was divided among various ethnic groups and whether some groups were favoured and some others discriminated against. The results of correlation analyses indicate that total expenditure on social security and welfare tends to be slightly lower in ethnically heterogeneous countries than in ethnically more homogeneous countries, but EH explains only a very small part of that variation. Thus, empirical evidence supports the research hypothesis only slightly. The levels of socio-economic development (Real GDP per capita), human development (HDI), and democratization (ID-93) explain much more of the variation in the total expenditure on social security and welfare. The countries at a higher level of socio-economic development and democratization tend to use relatively more money for welfare politics than poor countries and non-democracies. However, the empirical variables used in this paper do not disclose how welfare expenditures were distributed among various ethnic groups. More detailed empirical evidence is needed to test the central hypothesis on the effects of ethnic nepotism to welfare politics. I think that more detailed data on the distribution of social security and welfare, as well as of education expenditure among different ethnic groups, would disclose considerably stronger correlations. This paper was limited to some preliminary explorations and to the introduction of my measures of EH.

It would also be interesting to examine to what extent variation in criminal activities correlates with the degree of EH. It is plausible to assume that the level of criminality tends to be much higher in ethnically heterogeneous countries than in ethnically homogeneous countries because ethnic heterogeneity lowers the degree of solidarity among people. The same hypothesis could be used to explain variation in criminality between localities within a country.

NOTES

1. See T. Vanhanen, *Politics of Ethnic Nepotism: India as an Example* (New Delhi: Sterling, 1991); *Ethnic Conflicts Explained by Ethnic Nepotism* (Stamford: JAI Press, 1999); T. Vanhanen, 'Domestic Ethnic Conflict and Ethnic Nepotism: A Comparative Analysis', *Journal of Peace Research*, 36, 1 (1999), pp. 55–73.
2. P.L. van den Berghe, *The Ethnic Phenomenon* (Westport: Praeger, 1987[1981]), pp. 15–24.
3. P.L. van den Berghe, 'Does Race Matter?', *Nations and Nationalism*, 1, 3 (1995), p. 360.
4. J.P. Rushton, *Race, Evolution, and Behavior* (New Brunswick: Transaction, 1995), p. 69.
5. J.P. Rushton, 'Gene-Culture Coevolution and Genetic Similarity Theory: Implications for Ideology, Ethnic Nepotism, and Geopolitics', *Politics and the Life Sciences*, 4, 2 (1986), p. 146.
6. T. Vanhanen, *Politics of Ethnic Nepotism*, p. 156.
7. *Ibid.*, pp. 149–50.
8. M. Gilens, '"Race Coding" and White Opposition to Welfare', *American Political Science Journal*, 90, 3 (1996), p. 601.
9. F. Salter, 'Welfare, Ethnicity, and Altruism: Bringing in Evolutionary Theory', Symposium Concept Paper, Max Planck Institute for Behavioural Physiology, Munich, 1997. [Quoted in Chapter 1, this volume.]
10. See A. Alesina, R. Baqir and W. Easterly, 'Public Goods and Ethnic Divisions', *Quarterly Journal of Economics*, 114 (November 1999), pp. 1243–84.
11. See Vanhanen, *Ethnic Conflicts* and 'Domestic Ethnic Conflict and Ethnic Nepotism'.
12. See van den Berghe, *The Ethnic Phenomenon*, pp. 15–24; J.M.G. van der Dennen, 'Ethnocentrism and In-group/Out-group Differentiation: A Review and Interpretation of the Literature', in V. Reynolds, F. Falger and I. Vine (eds), *The Sociobiology of Ethnocentrism* (London: Croom Helm, 1987); W. Tönniesmann, 'Group Identification and Political Socialisation', in *The Sociobiology of Ethnocentrism*; A.K. Flohr, *Fremdenfeindlichkeit: Biosociale Grundlagen von Ethnocentrismus* (Opladen: Westdeutscher Verlag, 1994); Rushton, *Race, Evolution, and Behavior*.
13. J. Markakis, 'Solving the Riddle of Ethnicity and Ethnic Conflict', in A. Hurskainen and M. Salih (eds), *Social Science and Conflict Analysis* (Uppsala: Nordiska Afrikainstitutet, 1993), pp. 199–200; see also C. Corlin, 'Symbols of Mobilization: Ethnicity and Nationalism as Cultural Constructions', in H. Lindholm (ed.), *Ethnicity and Nationalism. Formation of Identity and Dynamics of Conflict in the 1990s* (Göteborg: Nordens, 1993); T.H. Eriksen, *Ethnicity and Nationalism. Anthropological Perspective* (London: Pluto Press, 1993).
14. T.R. Gurr, *Minorities: A Global View of Ethnopolitical Conflicts* (Washington, DC: United States Institute of Peace Press, 1993), p. 3.
15. A. Giddens, *Sociology* (Cambridge: Polity Press, 1995), p. 253.
16. D.L. Horowitz, *Ethnic Groups in Conflict* (Berkeley, CA: University of California Press, 1985); see also R.A. Schermerhorn, *Ethnic Plurality in India* (Tucson: University of Arizona Press, 1978); M.J. Esman, *Ethnic Politics* (Ithaca and London: Cornell University Press, 1991).
17. R. Stavenhagen, *Ethnic Conflicts and the Nation-State* (London: Macmillan, 1996), p. 1.
18. For genetic distance, see L.L. Cavalli-Sforza, P. Menozzi and A. Piazza, *The History and Geography of Human Genes* (Princeton: Princeton University Press, 1996).
19. See <http://www.prio.no/jpr/v36n1van.htm>.
20. See Vanhanen, *Ethnic Conflicts* and 'Domestic Ethnic Conflict and Ethnic Nepotism'.
21. See T. Vanhanen, *Prospects of Democracy: A study of 172 countries* (London and New York: Routledge, 1997).

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APPENDIX 5.1

Data on (1) Measures of Ethnic Heterogeneity and Other Explanatory Variables and (2) on Various Dependent Variables Indicating Ethnic Inequalities (Humana's Grades) and Expenditure on Social Security and Welfare.

EXPLANATORY VARIABLES

- 1 = Index of Ethnic Heterogeneity (EH)
- 2 = Racial divisions (Racial)
- 3 = National/linguistic/tribal divisions (Nat/lan)
- 4 = Religious divisions (Religious)
- 5 = Real GDP per capita (PPP\$), 1994 (GDP-94)
- 6 = Human Development Index, 1994 (HDI-94)
- 7 = Index of Democratization, 1993 (ID-93)

DEPENDENT VARIABLES

- 8 = Humana's grades of social and economic equality for ethnic minorities (Humana)
- 9 = Central government expenditure on social security and welfare as a percentage of total expenditure, 1980, 1993 (WD-93)
- 10 = Percentage of central government expenditure on social security and welfare, 1980, 1992-95 (HD-95)
- 11 = Public expenditure on social security as a percentage of GDP, 1980-85, 1989-94 (PE-GDP)
- 12 = Expenditures on social security as a percentage of total government expenditure, 1980-85, 1989-94 (SS-TGE)

EXPLANATORY VARIABLES

<i>Country</i>	<i>EH</i> 1	<i>Racial</i> 2	<i>Nat/ling</i> 3	<i>Religious</i> 4	<i>GDP-94</i> 5	<i>HDI-94</i> 6	<i>ID-93</i> 7
1. Afghanistan	90	0	70	20	700	208	0
2. Albania	40	0	10	30	2 788	655	7.7
3. Algeria	28	0	27	1	5 442	737	0
4. Angola	65	2	63	0	896	338	4.1
5. Antigua and Barbuda	2	2	0	0	8 977	892	3.8
6. Argentina	6	2	3	1	8 937	884	27.0
7. Armenia	12	0	6	6	1 737	651	18.4
8. Australia	12	5	5	2	19 285	931	32.4
9. Austria	6	0	6	0	20 667	932	35.4

EXPLANATORY VARIABLES: Continued

<i>Country</i>	<i>EH</i> 1	<i>Racial</i> 2	<i>Nat/ling</i> 3	<i>Religious</i> 4	<i>GDP-94</i> 5	<i>HDI-94</i> 6	<i>ID-93</i> 7
10 Azerbaijan	32	0	17	15	1 670	635	3.1
11 Bahamas	15	15	0	0	15 875	894	19.3
12 Bahrain	72	0	32	40	15 321	870	0
13 Bangladesh	19	1	1	17	1 331	368	13.7
14 Barbados	4	3	0	1	11 051	907	23.5
15 Belarus	23	0	22	1	4 713	806	6.5
16 Belgium	53	0	50	3	20 985	932	47.1
17 Belize	116	56	60	0	5 590	806	14.4
18 Benin	55	0	40	15	1 696	368	12.3
19 Bhutan	90	30	30	30	1 289	338	0
20 Bolivia	75	35	40	0	2 598	589	10.5
21 Bosnia-Herzegovina	112	0	56	56	3 000	650	16.2
22 Botswana	3	1	3	0	5 367	673	7.0
23 Brazil	52	50	1	1	5 362	783	20.5
24 Brunei	88	18	33	37	30 447	882	0
25 Bulgaria	27	0	14	13	4 533	780	35.4
26 Burkina Faso	65	0	45	20	796	221	3.6
27 Burma (Myanmar)	55	0	35	20	1 051	475	0
28 Burundi	20	0	20	0	698	247	2.2
29 Cambodia	15	0	10	5	1 084	348	5.9
30 Cameroon	77	0	55	22	2 120	468	11.5
31 Canada	45	4	37	4	21 459	960	28.3
32 Cape Verde	29	29	0	0	1 862	547	8.4
33 Central African Republic	74	0	69	5	1 130	355	12.2
34 Chad	144	54	40	50	700	288	0
35 Chile	10	7	3	0	9 129	891	20.2
36 China	13	1	9	3	2 604	626	0
37 Colombia	19	15	3	1	6 107	848	7.8
38 Comoros	14	0	0	14	1 366	412	9.7
39 Congo	55	0	52	3	2 410	500	15.4
40 Costa Rica	5	3	2	0	5 919	889	21.6
41 Côte d'Ivoire	90	1	73	22	1 668	368	2.3
42 Croatia	45	0	22	23	3 960	760	26.5
43 Cuba	34	34	0	0	3 000	723	0
44 Cyprus	38	0	20	18	13 071	907	27.4
45 Czech Republic	7	0	7	0	9 201	882	40.3
46 Denmark	5	1	3	1	21 341	927	39.7
47 Djibouti	67	11	50	6	1 270	319	2.8
48 Dominica	4	4	0	0	6 118	873	15.4
49 Dominican Republic	27	20	7	0	3 033	718	16.6
50 Ecuador	60	35	25	0	4 626	775	21.1
51 Egypt	17	0	7	10	3 846	614	2.4
52 El Salvador	20	10	10	0	2 417	592	10.2
53 Equatorial Guinea	15	0	15	0	1 673	462	0
54 Eritrea	100	0	50	50	960	269	0
55 Estonia	78	0	30	40	4 294	776	17.7
56 Ethiopia	100	0	60	40	427	244	0
57 Fiji	147	50	50	47	5 763	863	18.2
58 Finland	7	0	7	0	17 417	940	36.5
59 France	14	1	10	3	20 510	946	30.9
60 Gabon	54	3	50	1	3 641	562	16.2
61 Gambia	55	0	40	15	939	281	9.0

EXPLANATORY VARIABLES: Continued

<i>Country</i>	<i>EH</i> 1	<i>Racial</i> 2	<i>Nat/ling</i> 3	<i>Religious</i> 4	<i>GDP-94</i> 5	<i>HDI-94</i> 6	<i>ID-93</i> 7
62 Georgia	40	0	30	10	1 585	637	19.8
63 Germany	12	1	8	3	19 675	924	37.2
64 Ghana	72	0	56	16	1 960	468	4.6
65 Greece	11	0	8	3	11 265	923	35.0
66 Grenada	5	5	0	0	5 137	843	20.1
67 Guatemala	90	40	50	0	3 208	572	3.7
68 Guinea	68	0	52	16	1 103	271	4.1
69 Guinea-Bissau	32	2	0	30	793	291	0
70 Guyana	140	48	49	43	2 729	649	17.9
71 Haiti	5	5	0	0	896	338	0
72 Honduras	13	8	5	0	2 050	575	14.1
73 Hungary	8	0	8	0	6 437	857	27.1
74 Iceland	4	0	4	0	20 566	942	37.2
75 India*	131	3	70	17	1 348	446	17.6
76 Indonesia	74	1	60	13	3 740	668	4.0
77 Iran	65	0	50	15	5 766	780	9.3
78 Iraq	71	0	26	45	3 159	531	0
79 Ireland	4	0	0	4	16 061	929	30.0
80 Israel	40	0	20	20	16 023	913	34.4
81 Italy	8	1	6	1	19 363	921	48.3
82 Jamaica	9	8	1	0	3 816	736	10.4
83 Japan	2	0	1	1	21 581	940	25.5
84 Jordan	11	0	1	10	4 187	730	2.0
85 Kazakhstan	102	0	56	46	3 284	709	1.5
86 Kenya	81	1	60	20	1 404	463	11.5
87 Kiribati	1	1	1	0	2 200	560	13.7
88 Korea, North	0	0	0	0	3 965	765	0
89 Korea, South	0	0	0	0	10 656	890	30.0
90 Kuwait	70	0	60	10	21 875	814	0.4
91 Kyrgyzstan	74	0	48	26	1 930	635	2.4
92 Laos	49	0	34	15	2 484	459	0
93 Latvia	90	0	48	42	3 332	711	19.5
94 Lebanon	85	0	18	67	4 863	794	11.7
95 Lesotho	1	0	1	0	1 109	457	1.7
96 Liberia	76	0	56	20	850	317	0
97 Libya	12	1	10	1	6 125	801	0
98 Lithuania	32	0	20	12	4 011	762	23.5
99 Luxembourg	30	0	30	0	34 155	899	37.4
100 Macedonia	64	0	34	30	3 965	748	12.2
101 Madagascar	69	0	60	9	1 130	350	11.0
102 Malawi	55	0	40	15	694	320	0
103 Malaysia	110	9	54	47	8 865	832	14.9
104 Maldives	0	0	0	0	2 200	611	2.2
105 Mali	65	6	50	10	543	229	3.0
106 Malta	5	0	5	0	13 009	887	33.1
107 Mauritania	70	15	60	0	1 593	355	6.0
108 Mauritius	110	30	32	48	13 172	831	27.6
109 Mexico	40	30	10	0	7 384	853	10.6
110 Micronesia	53	0	53	0	2 200	560	16.8
111 Moldova	37	0	36	1	1 576	612	8.0
112 Mongolia	18	6	6	6	3 766	661	20.6
113 Morocco	11	0	40	1	3 681	566	4.3
114 Mozambique	70	0	60	10	986	281	0

EXPLANATORY VARIABLES: Continued

<i>Country</i>	<i>EH</i> <i>1</i>	<i>Racial</i> <i>2</i>	<i>Nat/ling</i> <i>3</i>	<i>Religions</i> <i>4</i>	<i>GDP-94</i> <i>5</i>	<i>HDI-94</i> <i>6</i>	<i>ID-93</i> <i>7</i>
115 Namibia	59	5	54	0	4 027	570	5.5
116 Nepal	60	0	47	13	1 000	347	12.0
117 Netherlands	13	3	6	4	19 238	940	38.4
118 New Zealand	34	17	17	0	16 851	937	37.0
119 Nicaragua	24	14	10	0	1 580	530	16.6
120 Niger	71	10	46	15	787	206	11.6
121 Nigeria	95	0	45	50	1 351	393	0
122 Norway	7	1	5	1	21 346	943	35.9
123 Oman	13	3	26	14	10 078	718	0
124 Pakistan	55	0	52	3	2 154	445	6.8
125 Panama	31	21	10	0	6 104	864	21.6
126 Papua New Guinea	33	2	20	0	2 821	525	31.2
127 Paraguay	4	2	2	0	3 531	706	13.7
128 Peru	76	46	30	0	3 645	717	16.4
129 Philippines	16	0	10	6	2 681	672	23.4
130 Poland	1	0	4	0	5 002	834	19.6
131 Portugal	2	1	1	0	12 326	890	20.7
132 Qatar	62	0	55	7	18 403	840	0
133 Romania	25	0	15	10	4 037	748	27.5
134 Russia	32	2	18	12	4 828	792	27.0
135 Rwanda	12	0	11	1	352	187	0
136 St Kitts and Nevis	5	5	0	0	9 436	853	18.9
137 St Lucia	4	1	0	0	6 182	838	18.5
138 St Vincent and the Grenadines	7	7	0	0	5 650	836	13.6
139 São Tomé and Príncipe	0	0	0	0	1 704	534	9.3
140 Saudi Arabia	15	2	27	16	9 338	774	0
141 Senegal	11	2	33	6	1 596	326	6.3
142 Seychelles	6	0	6	0	7 891	845	23.6
143 Sierra Leone	86	1	55	30	643	176	0
144 Singapore	57	9	24	24	20 987	900	10.9
145 Slovakia	18	0	18	0	6 389	873	38.4
146 Slovenia	9	0	8	1	10 404	886	33.0
147 Solomon Islands	16	6	10	0	2 118	556	18.1
148 Somalia	80	0	80	0	759	217	0
149 South Africa	107	21	80	3	4 291	715	3.1
150 Spain	30	0	30	0	14 324	934	36.6
151 Sri Lanka	57	0	26	31	3 277	711	15.7
152 Sudan	124	59	35	30	1 084	333	0
153 Suriname	177	62	63	52	4 711	792	6.5
154 Swaziland	8	3	5	0	2 821	582	0
155 Sweden	13	1	10	2	18 540	936	39.1
156 Switzerland	38	1	35	2	24 967	930	23.7
157 Syria	39	0	11	28	5 397	755	6.8
158 Taiwan (Republic of China)	16	0	16	0	10 890	890	4.6
159 Tajikistan	46	0	38	8	1 117	580	3.0
160 Tanzania	39	1	5	33	656	357	0.4
161 Thailand	20	0	15	5	7 104	833	6.2
162 Togo	60	0	50	10	1 109	365	0.6
163 Tonga	4	2	2	0	2 200	560	0
164 Trinidad and Tobago	98	13	20	35	9 124	880	22.5
165 Tunisia	5	0	5	0	5 319	748	2.6

EXPLANATORY VARIABLES: Continued

<i>Country</i>	<i>EH</i> 1	<i>Racial</i> 2	<i>Nat/ling</i> 3	<i>Religious</i> 4	<i>GDP-94</i> 5	<i>HDI-94</i> 6	<i>ID-93</i> 7
166 Turkey	45	0	25	20	5 193	772	12.2
167 Turkmenistan	38	0	28	10	3 469	723	2.5
168 Uganda	76	1	59	16	1 370	328	0
169 Ukraine	27	0	27	0	2 718	689	21.7
170 United Arab Emirates	73	1	67	5	16 000	866	0
171 United Kingdom	24	2	18	4	18 620	931	33.6
172 United States	35	20	10	5	26 397	942	20.7
173 Uruguay	4	2	0	2	6 752	883	39.7
174 Uzbekistan	38	0	29	9	2 438	662	1.5
175 Vanuatu	12	6	6	0	2 276	547	21.8
176 Venezuela	15	12	1	2	8 120	861	19.2
177 Vietnam	23	0	13	10	1 208	557	0
178 Western Sahara	2	1	1	0	2 726	684	12.6
179 Yemen	50	0	10	40	805	361	2.9
180 Yugoslavia	57	0	37	20	4 000	750	20.7
181 Zaïre	70	0	60	10	429	381	0
182 Zambia	67	1	65	1	962	369	3.7
183 Zimbabwe	24	2	22	0	2 196	513	3.2

* In the case of India, some caste divisions were taken into account in addition to the three dimensions of ethnic divisions. Therefore, the value of EH (131) is higher than the sum of the three variables of ethnic divisions (90).

*Sources**EH and its three components:*

Vanhanen, *Ethnic Conflicts* and 'Domestic Ethnic Conflict and Ethnic Nepotism'.

GDP-94 and HDI-94:

Human Development Report 1997, Table 1. Values of Real GDP per capita and HDI were estimated for Afghanistan, Bosnia-Herzegovina, Kiribati, Micronesia, Taiwan, Tonga, and Yugoslavia on the basis of their neighbouring countries. Data for Liberia and Somalia are from *Human Development Report 1994*, Table 1.

ID-93:

Vanhanen, *Prospects of Democracy: A Study of 172 countries*, pp. 86-9 (172 countries). Data were collected and calculated separately for Bosnia-Herzegovina, Slovakia, Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, Eritrea, Seychelles, Kiribati, Micronesia, and Tonga.

DEPENDENT VARIABLES

<i>Country</i>	<i>Humana</i> <i>8</i>	<i>WD-93</i> <i>9</i>	<i>HD-95</i> <i>10</i>	<i>PE-GDP</i> <i>11</i>	<i>SS-TGE</i> <i>12</i>
1 Afghanistan	3			2.5	
2 Albania				4.2	15.7
3 Algeria	2			8.0	12.7
4 Angola	3			2.2	10.0
5 Antigua and Barbuda				12.0	
6 Argentina	1		45.8	17.8	48.1
7 Armenia				8.2	
8 Australia	2	33.7	33.8		35.4
9 Austria	1	17.5	45.8		49.5
10 Azerbaijan				8.0	
11 Bahamas			4.1	4.5	
12 Bahrain			4.5		5.8
13 Bangladesh	3	5.3	1.7	2.4	
14 Barbados			14.3		25.8
15 Belarus		37.2	36.5	8.0	43.2
16 Belgium	2	44.7	41.6		41.4
17 Belize			3.5	9.0	6.1
18 Benin	1			2.1	
19 Bhutan			0	5.9	3.5
20 Bolivia	2	13.5	14.6		18.6
21 Bosnia-Herzegovina					
22 Botswana	2	16.2	2.6		3.2
23 Brazil	2	30.0	29.5		27.1
24 Brunei					
25 Bulgaria	2	34.2	28.0	6.3	28.7
26 Burkina Faso		7.6	0	9.5	0.1
27 Burma (Myanmar)	3	5.5	4.1	2.7	6.3
28 Burundi				7.9	
29 Cambodia	1			1.8	
30 Cameroon	2	2.8	1.0		1.1
31 Canada	2	41.9	41.3		40.8
32 Cape Verde				16.0	
33 Central African Republic		6.3	6.5	7.7	7.3
34 Chad				2.5	
35 Chile	1	39.3	33.3		39.6
36 China	2	0.2	0.1		68.1
37 Colombia	3	21.4	7.8	4.0	9.5
38 Comoros				5.2	
39 Congo		7.0	4.9		7.5
40 Costa Rica	2	10.8	17.7		19.9
41 Côte d'Ivoire	1	4.3			
42 Croatia			32.4		32.8
43 Cuba	2				
44 Cyprus			23.0	8.1	27.5
45 Czech Republic	2	28.3	28.1		31.8
46 Denmark	1	41.3	39.3		41.5

DEPENDENT VARIABLES: Continued

<i>Country</i>	<i>Humana</i> <i>8</i>	<i>WD-93</i> <i>9</i>	<i>HD-95</i> <i>10</i>	<i>PE-GDP</i> <i>11</i>	<i>SS-TGE</i> <i>12</i>
47 Djibouti				4.9	
48 Dominica					
49 Dominican Republic	2	13.8	4.2		8.3
50 Ecuador	2	1.3	1.9	3.9	2.4
51 Egypt	1	14.7	11.0	4.9	13.5
52 El Salvador	1	10.2	4.7		9.4
53 Equatorial Guinea				7.1	
54 Eritrea					
55 Estonia		35.0	30.0	7.5	45.3
56 Ethiopia		6.5	4.7		
57 Fiji			4.8	10.6	5.4
58 Finland	1	51.9	45.6		47.4
59 France	2	45.5	45.0		47.5
60 Gabon				7.4	
61 Gambia		3.3	3.0	15.0	4.2
62 Georgia				6.2	
63 Germany	2	45.9	49.5		48.4
64 Ghana	1	9.9	7.1	7.4	8.3
65 Greece	2	14.7	13.4		14.0
66 Grenada					5.7
67 Guatemala	2				5.9
68 Guinea				6.2	
69 Guinea-Bissau				4.6	2.9
70 Guyana			3.0		3.3
71 Haiti					
72 Honduras	2			5.3	11.3
73 Hungary	2	22.3	28.7		29.8
74 Iceland			24.3		25.9
75 India	2	7.1			
76 Indonesia	3	1.6	0	3.8	
77 Iran	3	8.6	10.3	8.8	15.8
78 Iraq	4				
79 Ireland	1	30.3	28.3		30.2
80 Israel	2	31.3	24.5	10.2	27.2
81 Italy	2	29.6	31.4		31.2
82 Jamaica	1				
83 Japan	2		36.8		
84 Jordan	2	16.3	15.3	12.1	19.1
85 Kazakhstan				8.0	
86 Kenya	2	1.9	0.1	7.1	0.1
87 Kiribati					
88 Korea, North	1				
89 Korea, South	1	11.2	10.2	7.0	12.6
90 Kuwait	4	25.8	16.6		19.0
91 Kyrgyzstan				7.1	
92 Laos					
93 Latvia			36.7	8.0	38.4

DEPENDENT VARIABLES: Continued

<i>Country</i>	<i>Humana</i> <i>8</i>	<i>WD-93</i> <i>9</i>	<i>HD-95</i> <i>10</i>	<i>PE-GDP</i> <i>11</i>	<i>SS-TGE</i> <i>12</i>
94 Lebanon					
95 Lesotho		5.5	1.5	11.5	2.1
96 Liberia					0.8
97 Libya	2			6.7	
98 Lithuania		37.0	37.5	7.3	40.8
99 Luxembourg			50.8		57.6
100 Macedonia					
101 Madagascar		1.5	1.5		2.3
102 Malawi	2	1.6	1.2	2.0	1.2
103 Malaysia	3	11.4	5.7	6.8	8.0
104 Maldives			3.9		1.1
105 Mali		3.0			13.3
106 Malta			34.0	11.5	40.2
107 Mauritania				4.0	
108 Mauritius		22.3	16.5		14.4
109 Mexico	1	18.5	12.4		14.4
110 Micronesia					
111 Moldova				8.0	
112 Mongolia		19.1	21.6	10.7	25.5
113 Morocco	2	6.5	5.9		7.7
114 Mozambique	2			13.1	
115 Namibia		15.1			
116 Nepal	2	6.8	0.6	1.9	11.9
117 Netherlands	2	41.5	37.2		38.8
118 New Zealand	2	39.7	36.9		39.1
119 Nicaragua	1	15.8	11.7		19.9
120 Niger		3.8			3.3
121 Nigeria	2				0.1
122 Norway	2	34.7	39.5		41.1
123 Oman	1	11.5	3.2	6.0	3.8
124 Pakistan	3	2.8	3.1		
125 Panama	2	23.3	22.2		24.9
126 Papua New Guinea	1	1.4	0.7		0.7
127 Paraguay	2	16.7	16.2		19.1
128 Peru	2	0		2.4	
129 Philippines	1	5.0	3.1	1.5	3.7
130 Poland	1				38.0
131 Portugal	2	27.0	24.6		24.1
132 Qatar					
133 Romania	2	21.5	28.8		33.3
134 Russia	3		28.5	7.6	21.4
135 Rwanda	1			4.1	
136 St Kitts and Nevis					11.5
137 St Lucia					
138 St Vincent and the Grenadines			6.4	10.4	8.3
139 São Tomé and Príncipe				23.1	

DEPENDENT VARIABLES: Continued

<i>Country</i>	<i>Humana 8</i>	<i>WD-93 9</i>	<i>HD-95 10</i>	<i>PE-GDP 11</i>	<i>SS-TGE 12</i>
140 Saudi Arabia	3			1.6	
141 Senegal	1	9.5	5.9		6.9
142 Seychelles				10.1	
143 Sierra Leone	2	3.6		3.6	2.4
144 Singapore	2	9.0	3.8	10.0	5.0
145 Slovakia					
146 Slovenia					
147 Solomon Islands			2.7		1.1
148 Somalia					2.7
149 South Africa	4			3.0	
150 Spain	2	38.8	39.0		41.9
151 Sri Lanka	3	16.6	16.7		20.7
152 Sudan	4				3.0
153 Suriname					10.8
154 Swaziland					0.5
155 Sweden	2	53.3	48.2		48.8
156 Switzerland	2	49.3	48.3		53.1
157 Syria	3		2.3		3.4
158 Taiwan (Republic of China)					
159 Tajikistan				8.0	
160 Tanzania	3	2.5			0.7
161 Thailand	2	6.7	4.0	4.6	5.3
162 Togo	2	11.0	8.8	5.5	10.1
163 Tonga					1.7
164 Trinidad and Tobago	1	15.9	6.4		
165 Tunisia	1	18.6	14.3	4.5	18.0
166 Turkey	2	6.0	3.9		4.3
167 Turkmenistan				8.0	
168 Uganda	3	4.2		5.5	1.8
169 Ukraine				8.0	
170 United Arab Emirates		5.3	3.4		3.5
171 United Kingdom	1	32.5	29.6		32.3
172 United States	2	31.7	29.6		30.7
173 Uruguay	2	56.0	60.6		65.5
174 Uzbekistan				8.0	
175 Vanuatu			0.9		1.5
176 Venezuela	2	9.5	7.0	7.5	6.8
177 Vietnam	3			7.9	
178 Western Sahara				2.8	
179 Yemen	1	2.4	0		
180 Yugoslavia	2				
181 Zaire	3		0.7	4.0	1.2
182 Zambia	2	3.4	3.2	3.4	6.0
183 Zimbabwe	2	7.8	6.7		3.8

*Sources:**Humana:*

C. Humana, *World Human Rights Guide* (New York: Oxford University Press, 1992).

WD-93:

World Development Report 1995, Table 10.

HD-95:

Human Development Report 1997, Tables 18 and 35.

PE-GDP and SS-TGE: *Social Indicators of Development 1996*.

Reconciling the Differences between Sanderson's and Vanhanen's Results

Stephen K. Sanderson and Tatu Vanhanen

In their studies of the impact of ethnic heterogeneity on public spending in this volume, Sanderson and Vanhanen both support the notion that ethnic heterogeneity inhibits welfare spending. However, Sanderson's data show a moderate to strong effect of heterogeneity on spending, whereas Vanhanen's data show only a very weak effect. In view of this discrepancy, an attempt was made to see whether the divergent findings could be reconciled. A third set of analyses was carried out in which Vanhanen's sample was used but an attempt was made to replicate Sanderson's multiple regressions as closely as possible. There are three differences between Sanderson's and Vanhanen's studies that could account for the differential strength of their results. First, Sanderson used two measures of ethnic heterogeneity not used by Vanhanen, and these measures appear to be more sensitive. Second, Sanderson used four control variables to predict welfare spending, whereas Vanhanen used only two (and Sanderson measured economic development by GNP per capita, whereas Vanhanen used the Human Development Index). Finally, Vanhanen used, in three of four cases, measures of welfare spending different from those used by Sanderson.

Using Vanhanen's sample, Sanderson added to it data on labour organization and party fractionalization, and he added as well his measure of the independent variable known as Ethnic Heterogeneity 3. In his original study, Sanderson had found this to be the most powerful of the measures of ethnic heterogeneity he used. Four multiple regressions were performed, one for each of Vanhanen's measures of the dependent variable, and the results are reported below.

These results are much better than Vanhanen's original results and much closer to Sanderson's. In three of the four analyses, ethnic heterogeneity is a good predictor of welfare spending. It is the third best predictor of WD-93, and the second best predictor of both HD-95 and SS-TGE. It is only weakly related to PE-GDP, but nonetheless is still the best predictor of that dependent variable.

Our conclusion is thus that when ethnic heterogeneity is measured in a sensitive way, and when controls are applied for appropriate variables, ethnic heterogeneity has a substantial negative effect on welfare spending.

Table 6.1: Effects of Level of Democracy, Gross Domestic Product, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on WD-93.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
Index of Democracy	0.737	0.504	0.405	4.285	0.000
LogGDP 1994	0.621	0.184	0.124	1.376	0.175
LogLabour Organization	0.553	0.324	0.203	2.517	0.015
Party Fractionalization	0.139	0.515	0.303	4.415	0.000
Ethnic Heterogeneity 3	-0.535	-0.412	-0.251	-3.765	0.002

R = 0.869; R² = 0.755; R² (adjusted) = 0.732; N = 60.

Table 6.2: Effects of Level of Democracy, Gross Domestic Product, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on HD-95.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
Index of Democracy	0.750	0.536	0.528	4.881	0.000
LogGDP 1994	0.549	0.028	0.023	0.218	0.828
LogLabour Organization	0.513	0.268	0.197	2.139	0.037
Party Fractionalization	0.228	0.150	0.092	1.165	0.249
Ethnic Heterogeneity 3	-0.492	-0.325	-0.228	-2.635	0.011

R = 0.805; R² = 0.648; R² (adjusted) = 0.619; N = 65.

Table 6.3: Effects of Level of Democracy, Gross Domestic Product, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on PE-GDP.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
Index of Democracy	0.217	0.075	0.099	0.390	0.700
LogGDP 1994	0.207	0.034	0.013	0.178	0.860
LogLabour Organization	0.106	-0.019	-0.021	-0.099	0.922
Party Fractionalization	0.140	0.098	0.094	0.510	0.614
Ethnic Heterogeneity 3	-0.286	-0.206	-0.224	-1.090	0.283

R = 0.286; R² = 0.082; R² (adjusted) = 0.052; N = 33.

Table 6.4: Effects of Level of Democracy, Gross Domestic Product, Labour Organization, Party Fractionalization, and Ethnic Heterogeneity 3 on SS-TGE.

<i>Variable</i>	<i>Zero-Order</i>	<i>Partial</i>	<i>Stand. Beta</i>	<i>t</i>	<i>Sig.</i>
Index of Democracy	0.680	0.406	0.379	3.578	0.001
LogGDP 1994	0.539	0.011	0.033	0.328	0.744
LogLabour Organization	0.544	0.322	0.248	2.747	0.008
Party Fractionalization	0.238	0.169	0.107	1.387	0.170
Ethnic Heterogeneity 3	-0.564	-0.446	-0.341	-4.022	0.000

R = 0.793; R² = 0.628; R² (adjusted) = 0.600; N = 71.

Part II

Welfare Broadly Defined: Ethnic Heterogeneity and Economic Growth

Ethnolinguistic Diversity, Government, and Growth

William A. Masters and Margaret S. McMillan

INTRODUCTION

Recent studies have found that more ethnolinguistically diverse groups invest less in collective goods such as municipal services,¹ local charities,² and national social welfare programmes,³ and also achieve lower levels of economic growth.^{4,5,6} We confirm these findings, but add other evidence suggesting a very different interpretation of the data, with opposite policy implications from those previously drawn.

Using data for up to 113 countries from 1960 until the end of 1990, we show that ethnolinguistic diversity is not significantly related to country size, as it might be if it were a biological fact, exogenously distributed across the globe. In contrast, diversity levels are significantly higher in countries with lower initial per capita income. This observation, along with the historical evidence that ethnolinguistic barriers vary widely in their importance over time (e.g. in the rapid assimilation of many ethnic groups in the United States since 1945) and within countries (e.g. in the persistence of barriers in some locations while they disappear elsewhere), leads to the hypothesis that persistent observable divisions may be seen as endogenous responses to the underlying conditions that cause poverty and insecurity, rather than exogenous causes of low income.

Our hypothesis is that people's tendency to erect and maintain ethnolinguistic barriers depends on the material incentives to do so, and maintaining smaller ethnolinguistic groups (that is, dividing a given country into a larger number of subgroups) has been more attractive in places with greater resource scarcity or uncertainty. We find some evidence for this proposition, and even stronger evidence for a further hypothesis that uniting different ethnolinguistic groups into a single country has been associated with faster economic growth, due to economies of scale and a larger extent of the market.

For ethnolinguistic differences that are impossible to change, such as skin colour, economic incentives can affect only whether and how people respond to that difference. Other differences result from more or less conscious decisions, such as what language or accent to learn. In the low-income

countries of Africa and Asia, where ethnolinguistic diversity is greatest, many divisions are obviously man-made, through 'tribal' scarification or the differentiation of language using clicks, whistles and other sounds that are difficult to learn after childhood.

We argue that ethnolinguistic divisions, whether from behavioural response to natural differences (such as skin colour), or from the creation of artificial differences (such as scarification and local accents), can be seen as a choice to use ethnolinguistic ties instead of 'atomistic' commercial markets, and that doing so is particularly valuable in relatively low-income environments, where atomistic markets are less successful. The economic value of ethnolinguistic networks in these contexts is well documented, in studies of their role in facilitating employment searches⁷ and unsecured loans for consumption purposes⁸ or production activities.^{9,10} Investment in 'ethnic capital' has been shown to be particularly important for lower-income people within industrialized countries,¹¹ and for traders facing greater uncertainty about market conditions¹² or product characteristics.^{13,14}

To test whether observed diversity is a result of poverty rather than its cause, we incorporate diversity measures into a standard model of economic growth. The results indicate that although ethnolinguistic fractionalization is correlated with lower economic growth over time, the effect is significantly smaller at higher levels of income. Poverty exacerbates the effects of diversity on growth, and in any event, the magnitude of diversity's costs are small relative to the benefits of larger country size. Thus, particularly at higher income levels, there has been a substantial profit in building unified countries out of diverse ethnolinguistic groups.

Our study helps identify the economic profit from unifying diverse societies into larger political units, and hence is an important complement to recent studies highlighting the costs of social diversity. The studies that initially identified the association between diversity, low provision of public goods, and poor economic performance can easily lead to the conclusion that on balance, diversity is costly, so that separate political representation would promote economic efficiency. This conclusion can be derived from several different explanations of the observed correlations, including both short-term economic choices as well as long-term evolutionary selection for certain types of behaviour.

Among economic explanations, a standard approach draws on local-public-finance theory, following Tiebout.¹⁵ Tiebout models argue that each individual has a greater economic incentive to invest in collective activities with others who have similar needs. This view implies that the well-being of each individual may call for them to 'Tiebout-sort' themselves into groups with homogeneous interests, even if their origins differ.

Among evolutionary explanations, a standard approach draws on the principle of inclusive fitness, due to Hamilton¹⁶ and popularized by Dawkins.¹⁷ Inclusive-fitness models argue that natural selection favours

altruistic and co-operative behaviour towards others who may share genetic material. A similar notion can be extended to non-kin through selection for reciprocal altruism.¹⁸ The inclusive fitness or reciprocal altruism arguments imply that the well-being of each individual may call for them to sort themselves into subgroups of homogenous lineage that are mutually supportive, even if their economic interests differ.

An intermediate approach involving both economic choice and evolutionary selection is the concept of mutual aid,¹⁹ formalized more recently as the evolution of co-operation.²⁰ This 'evolutionary economics' approach argues that people may choose strategies that promise long-term profits over repeated interactions, if the conditions under which interaction occurs favour co-operation.

All three types of explanation for the observed correlations – economic (Liebout sorting), evolutionary (inclusive fitness or reciprocal altruism), and evolutionary economics – imply different mechanisms but lead to the same conclusion: all three imply that allowing distinct groups to have their own political representation can help all members of each group pursue their individual goals more effectively. This is the central insight of Alesina and Spolaore,²¹ who argue that 'a desire to share your country with people you like' (quoted in *The Economist*, 1998) helps to explain the relative success of some small, ethnolinguistically homogeneous nations such as Iceland.

Although we find evidence that divisions are costly, we find that overcoming those divisions to form larger countries actually promotes growth. Thus, addressing inter-group conflicts with separation could be like addressing fevers with cold baths: it might provide temporary relief of local symptoms, while the disease rages on. In some cases, granting sovereignty to the parties in 'civil' wars could have the disastrous effect of arming each party with the instruments of state power. Inter-state conflicts could have even worse consequences than intra-state ones.

To assess the relationship between ethnolinguistic divisions and economic performance, we turn now to our data and empirical results, and we conclude with a brief section on some implications of our findings.

DATA AND EMPIRICAL RESULTS

Description of the Data

Ethnolinguistic diversity is, as its name implies, an inherently multi-dimensional concept. Individuals have many kinds of social links, and the definition of a group membership may be ambiguous. Petersen²² provides numerous examples of the difficulties involved in identifying group membership. Nonetheless, from the emerging literature on ethnolinguistic divisions we draw five sets of measures covering virtually all of the world's

countries. Two of our measures were compiled by Vanhanen,²³ two are drawn from data reported by Easterly and Levine,²⁴ and one is from the US Bureau of the Census.

The first observation we use is Easterly and Levine's calculation of the probability that two randomly selected people will belong to a different ethnolinguistic group, based on data collected by Soviet researchers in the early 1960s. Easterly and Levine call this measure ELF-60, and we will refer to it as ETHNIC1.

Our ETHNIC2 variable is the proportion of people who are outside the dominant group, calculated from Vanhanen's 'Ethnic Homogeneity' (EH) index. Vanhanen's original measure is defined as the percentage of the national population belonging to the 'largest homogeneous ethnic group.'²⁵ To make the sign of our coefficient estimates consistent with those of ETHNIC1, we convert it to a diversity index ($\text{ETHNIC2} = [100 - \text{EH}]$).

A third measure related to the first is the probability of two randomly selected people speaking different languages, which we call LANG. Easterly and Levine²⁶ report two different datasets for this concept, with slightly different samples – to expand the sample size while weighting the two measures equally we have combined them into one measure, using whichever is available or their average if both are reported. An additional measure used to address other dimensions of diversity is the proportion of the population that voted for opposition political parties (which we call OPPO); a figure reported by Vanhanen²⁷ for the mid-1980s based on the opposition's share of votes cast multiplied by the voter participation rate.

Our economic variables are all taken from what has become the standard world-wide source of comparative economic data, the Penn World Tables version 5.6 available from numerous websites. The PWT database is important because it uses survey data on relative prices to compute national income and expenditure at internationally comparable 'purchasing power parity' (PPP) levels, offering a variety of indexes suitable for various purposes.

The particular PWT data we use are annual population estimates, real income (defined as GDP at PPP prices using a chain index), government size (defined as central government expenditure deflated by the government-specific PPP price index, as a share of GDP deflated by the economy-wide PPP index) and openness (defined as the nominal value of exports plus imports as a share of nominal GDP). We refer to these as GDP, GVT and OPEN respectively. For each of these variables, we use a three-year average for 1960–62 to measure their initial value and a decade average for 1980–90 to measure their ending value. These years were chosen to smooth out the influence of world-wide economic shocks that have affected groups of countries in similar ways in particular years, particularly the decline in oil and other commodity prices over the 1980s. We also calculate the GDP growth rate for 1960–90, using the OLS regression method (that is, the number reported is the antilog minus one of the coefficients on time estimated in a

regression of the log of GDP on the year with a constant). This approach gives us a GDP growth rate that gives equal weight to data observed in each year, and does not give particular importance to the initial or ending years.

To identify expenditure on a particularly 'public' sort of government activity – i.e., one that generates widely spread benefits, and does not reflect redistribution to or from particular interest groups within the country – we use expenditure on foreign aid. Many countries give small amounts of aid for short periods of time, but only 17 countries have significant programmes that are consistently reported to the agency that monitors aid flows, the Development Assistance Committee (DAC) of the OECD. From the OECD's website (www.oecd.org) we have data on annual aid flows over the 1961–1992 period, which we convert to their PPP equivalents using each donor's price level and exchange rate from the *PWT*, and report here as a proportion of PPP GDP.

Which Countries Are More Diverse?

To look at the data we begin with Figure 7.1, showing the linguistic measure of diversity (LANG) against population around 1960 (specifically the 1960–62 average). A similar graph could be shown with the other measures of diversity. We might expect that larger countries would cover a larger variety of ethnolinguistic groups, but in fact there is no significant correlation between size and diversity. Even in the smallest countries, individuals can find ethnolinguistic differences to assert if they choose to do so, and even in the largest countries, huge majorities can choose a common ethnolinguistic identity.

Figure 7.2 shows the same measure of diversity against real per capita income in 1960–62. Here a negative relationship is clearly visible, and the correlation is highly significant. Income levels account for about one quarter of total variance in diversity, as people in richer countries are more likely to choose common ethnolinguistic identities.

Visual examination of Figures 7.1 and 7.2, along with some reflection on the historical and comparative experiences of various groups in different contexts, suggests that ethnolinguistic divisions are not an externally determined biological fact, but are behaviourally influenced responses to socio-economic conditions. To see how these responses might influence government expenditure and economic growth, we control for other variables using a multiple-regression framework.

How Does Diversity Affect Government Expenditure?

To examine the links between diversity and government activity, we must first look for other determinants of government activity to use as control variables. The identification of those determinants is a relatively new

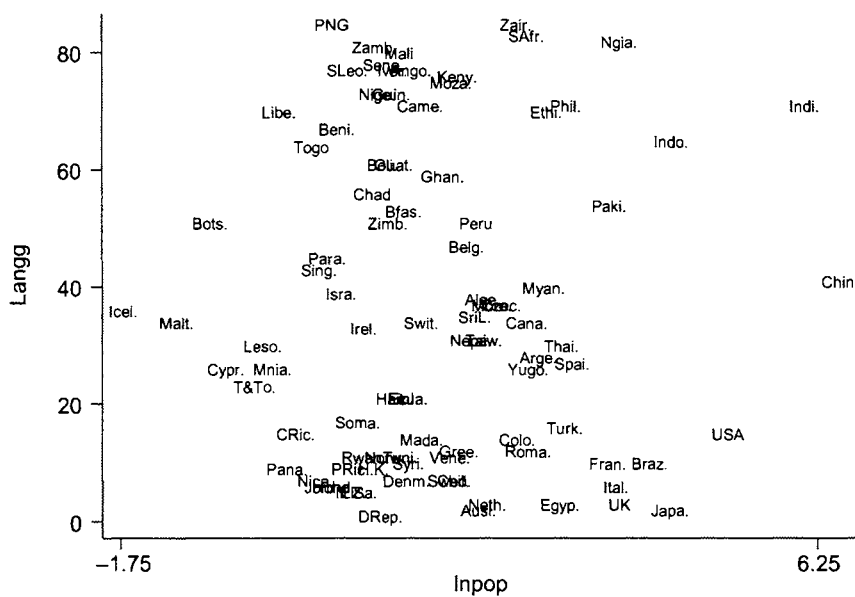


Figure 7.1: Language Diversity versus Country Size

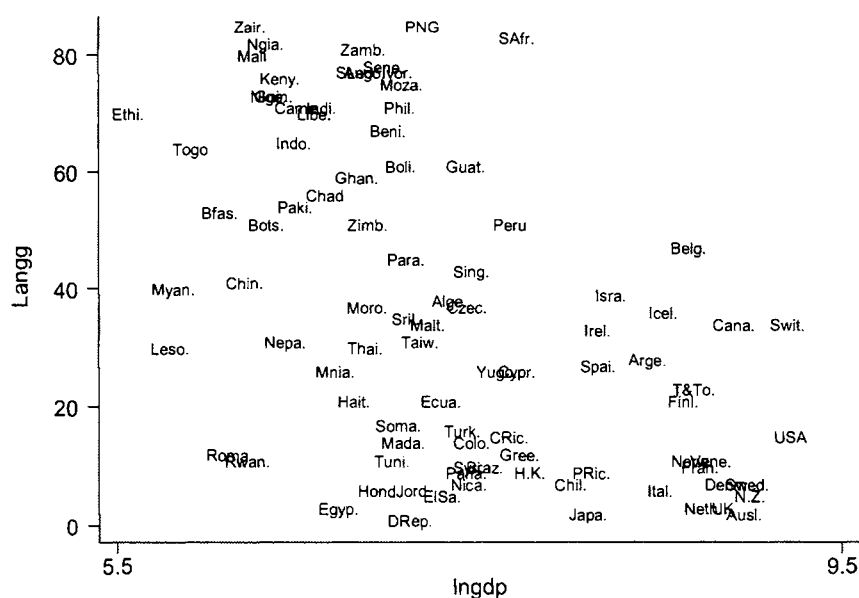


Figure 7.2: Language Diversity versus Per Capita Income in 1960-62

question for economics, with a standard contemporary work being that of Rodrik.²⁸ Rodrik finds that countries with greater openness to trade have larger governments, and hypothesizes that this is due to the greater riskiness of international trade and the consequently greater need for the risk-reducing services provided by government.

Following Rodrik, we do control for the relative openness of countries but find the coefficient on that variable to be not significantly different from zero and of the opposite sign from Rodrik's estimates. One reason why our results could differ, despite similar methods and data sources, is that his dependent variables are the 1985-89 and 1990-92 average levels of government expenditure, whereas we use the average for a longer period (1980-90). The 1985-92 period used by Rodrik happened to be one of relatively high world real interest rates, and governments in more open economies may have been influenced similarly by that common shock. We point this out because our finding does not necessarily contradict Rodrik's more fundamental point that one of government's key roles is to reduce risks. Since these risks could originate in domestic disturbances as well as in trade, our finding merely underscores that in a world-wide sample, the economies most vulnerable to risk may not be the most open ones.

To reformulate Rodrik's fundamental hypothesis in a way more suited to a world-wide sample, we seek other observable characteristics that might be associated with risk. The most obvious is per capita income: people in poorer countries are likely to face much more risk, in almost all the senses of that word. The most important by far is the risk of death, which recedes rapidly as incomes rise. However, governments help reduce many other kinds of risk as well, and these are often more relevant in poorer countries than in richer ones. For example, many governments spend huge amounts of money trying to stabilize the real price of staple foods and the employment or wealth of influential people, but attempts to do so consistently cost a greater share of real income in poorer than in richer countries.

Using income as proxy for risk is probably confounded by an offsetting effect of higher income on government spending: to the extent that higher real GDP per capita raises real wages, it raises the per unit cost of services relative to the prices of goods. In addition to the extent that services account for a larger share of government activity than private-sector work, higher incomes raise the cost of providing a given level of government activity. Thus we expect higher incomes to be associated with a higher share of income spent on government activity, even if the 'quantity' of service provided remains unchanged.

To assess the impact of diversity, we regress the size of government on our two control variables, openness and real income, and then add the diversity measures to determine their additional explanatory power (if any). Following Alesina and Wacziarg,²⁹ we also considered the impact of country size on government, but this variable adds little to our regressions and is consequently

Table 7.1: Regressions with Initial Government Size (1960-62) as Dependent Variable.

Independent Variables	Diversity Omitted (N = 125)		Diversity = ETHNIC1 (N = 105)		Diversity = ETHNIC2 (N = 113)		Diversity = LANG (N = 95)		Diversity = OPPO (N = 113)	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
diversity			0.063	3.07***	0.043	1.79*	0.073	3.20***	-0.116	-2.60**
constant	16.172	19.91***	11.525	11.08***	12.967	12.83***	11.781	11.92***	15.773	19.69***
adj.R ²	0.067		0.075		0.019		0.090		0.049	
gdp60	-0.001	-3.15***	-0.001	-3.40***	-0.001	-3.06***	-0.001	-2.68***	-0.001	-3.06***
constant	16.172	19.91***	16.192	19.15***	16.213	19.28***	15.945	18.11***	16.213	19.28***
adj.R ²	0.067		0.092		0.069		0.061		0.069	
gdp60	-0.001	-3.05***	-0.001	-3.31***	-0.001	-3.00***	-0.001	-2.59	-0.001	-3.00***
open60	-0.017	-1.14	-0.020	-1.32	-0.011	-0.67	-0.028	-1.75	-0.011	-0.67
constant	17.014	15.43***	17.192	15.19***	16.739	14.48***	17.251	15.07***	16.739	14.48***
adj.R ²	0.069		0.099		0.065		0.082		0.065	
gdp60	-0.001	-2.44**	-0.001	-2.44**	-0.001	-2.50**	0.000	-1.35	-0.001	-1.65
open60	-0.020	-1.34	-0.020	-1.34	-0.012	-0.73	-0.029	-1.85*	-0.010	-0.62
diversity	0.044	2.09**	0.044	2.09**	0.023	0.91	0.058	2.32**	-0.032	-0.48
constant	14.888	9.51***	14.888	9.51***	15.838	10.40***	14.627	9.19***	16.767	14.44***
adj.R ²	0.123		0.123		0.063		0.124		0.058	

Notes: Asterisks denote confidence levels of 99% (***), 95% (**), and 90% (*).

Dependent variable is average 1960-92 government share of GDP labelled CG in Penn World Tables 5.6).

Independent variables are gdp60 (GDP per capita in real PPP constant dollars, chain index, labelled rGDPch in PWT 5.6) and open60 (exports + imports as a share of GDP, labelled OPEN in PWT 5.6), both 1960-62 averages.

Diversity measure ETHNIC1 is the probability of two randomly selected individuals being of a distinct ethnolinguistic group, using data from around 1960 labelled ELF-60 in Easterly and Levine (1997); ETHNIC2 is the share of the population in a non-dominant group in the mid-1980s (calculated from the EH index of Vanhanen 1991); LANG is the probability of two individuals speaking different languages (the average of MULLER and ROBERTS variables in Easterly and Levine 1997); OPPO is the share of the population voting in opposition to government in the mid-1980s (calculated from the ID-85 index of Vanhanen 1991).

dropped in the results we show here. Results are reported in Table 7.1 for government size in the 1960–62 period, and then in Table 7.2 for the 1980–90 period. The regressors (independent variables) are identical for the two tables.

The clear result of our two sets of regressions is that the diversity measures have very little significant correlation with government expenditure as a whole. When we control for income level, the diversity measures add a little explanatory power – but only for the regressions when ethnicity is measured contemporaneously with government size (i.e., the GVT-60 regressions using ETHNIC1 and LANG). For the 1980s, none of the diversity measures have any statistical significance in any of the regressions, and none of the regressions explain more than 13 per cent of cross-country variance. We conclude from this that government expenditure as a whole is not consistently linked to diversity levels.

How Does Diversity Affect Public-Goods Provision at the National Level?

The definition of government used in Tables 1 and 2 covers all government activity, and hence includes very large amounts of redistributive spending between groups within the country, as well as national public goods which benefit everyone. And although Tables 1 and 2 show little correlation between ethnolinguistic diversity and total spending, this result could mask shifts in the composition of government spending between redistributive programmes and productive public goods.

Theoretical work, such as Schiff,³⁰ suggests that more diverse countries are likely to spend more on non-productive redistribution, but Sanderson³¹ shows that more diverse countries tend to spend *less* on certain kinds of redistributive welfare programmes. On balance, we have as yet no empirical tests of this proposition at the national level. It is only at the local level that a diversity effect on public-goods investment has been shown, most notably by Alesina, Baqir and Easterly.³² Local public resources might be characterized as ‘collective’ goods, which can be provided through a wide range of mechanisms in the private as well as public sectors. To find a government activity whose net benefits we can characterize as a broader ‘public’ good, with costs and benefits spread widely across the economy, we turn to foreign aid. Foreign aid might offer a particularly good empirical test of the links between diversity and the provision of public goods, because it is a highly visible, easily measured flow of resources that provides a (small) benefit to almost everyone in the donor country.

The benefits of foreign aid to the donor population include a more secure military or diplomatic environment, more profitable trade and investment, and the satisfaction of moral and religious interests. As the constituencies served by foreign aid are so varied, support is usually thin and the coalitions come apart easily – but support is widespread and the coalitions consistently come together again, so that virtually all countries with sufficiently high levels

Table 7.2: Regressions with 1980s Government Size (average of 1981-90) as Dependent Variable.

Independent Variables:	Diversity = <i>ETHNIC1</i> (<i>N</i> = 125)		Diversity = <i>ETHNIC2</i> (<i>N</i> = 113)		Diversity = <i>LXNG</i> (<i>N</i> = 95)		Diversity = <i>OPPO</i> (<i>N</i> = 113)	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
diversity								
constant	-0.041	2.23 ***	0.040	1.89 *	0.016	2.21 **	-0.141	-3.75 ***
adj.R ²	18.620	19.91 ***	19.274	21.93 ***	18.571	20.48 ***	22.256	32.87 ***
	0.037		0.022		0.040		0.104	
gdp60								
constant	-3.71 ***	-4.11 ***	-0.001	-1.19 ***	-0.001	-3.34 ***	-0.001	-1.19 ***
adj.R ²	30.75 ***	30.86 ***	22.680	32.01 ***	21.975	28.52 ***	22.680	32.01 ***
	0.093		0.129		0.097		0.129	
gdp60								
constant	-0.001	-4.11 ***	-0.001	-1.23 ***	-0.001	-3.36 ***	-0.001	-1.23 ***
adj.R ²	0.09	0.43 ***	0.017	1.24 ***	0.009	0.61 ***	0.017	1.24 ***
	22.216	22.59 ***	21.860	22.56 ***	21.573	21.19 ***	21.860	22.56 ***
	0.092		0.133		0.129		0.133	
gdp60								
constant	-0.001	-3.52 ***	-0.001	-3.83 ***	-0.001	-2.62 ***	-0.001	-2.04 **
adj.R ²	0.006	0.43 ***	0.016	1.19 ***	0.008	0.59 ***	0.018	1.33 ***
	0.018	0.99 ***	0.011	0.54 ***	0.020	0.88 ***	-0.063	-1.14 ***
	21.215	15.36 ***	21.412	16.73 ***	20.668	14.26 ***	21.913	22.62 ***
	0.125		0.128		0.089		0.135	

Notes: Asterisks denote confidence levels of 99% (***), 95% (**), and 90% (*).

Dependent variable is average 1960-92 government share of GDP, labelled CG in Penn World Tables 5.6i.

Independent variables are gdp60 (GDP per capita in real PPP constant dollars, chain index, labelled rGDPch in PWT 5.6i) and open60 (exports + imports as a share of GDP, labelled OPEN in PWT 5.6i), both 1960-62 averages.

Diversity measure *ETHNIC1* is the probability of two randomly selected individuals being of a distinct ethnolinguistic group, using data from around 1960 (labelled ELF-60 in Easterly and Levine 1997); *ETHNIC2* is the share of the population in a non-dominant group in the mid-1980s (calculated from the EH index of Vanhanen 1991); *LXNG* is the probability of two individuals speaking different languages (the average of MULLER and ROBERTS variables in Easterly and Levine 1997); *OPPO* is the share of the population voting in opposition to government in the mid-1980s (calculated from the ID-45 index of Vanhanen 1991).

of national income have substantial and enduring foreign aid programmes. Thus, foreign aid is a good example of a *national* public good which involves almost no redistribution within the country.

For the sample of 17 countries that give foreign aid, Table 7.3 presents panel results over four separate decades, and the panel of all four periods pooled together. We use this approach to increase the sample size, as well as to consider possible differences across the decades. The first set of columns presents the results when ethnicity is not included, and the next four sets present results with each measure of ethnolinguistic heterogeneity used in turn. (On account of the strong collinearity between the measures, regressions that combine them are not meaningful.) The first set of rows present the results for the whole panel, and the next four present each decade.

Regression results for the regressions with economic variables only, not controlling for ethnolinguistic divisions, have all coefficients of the expected sign in all regressions over all decades and also the whole pool, but only the government-size variable is consistently significant at the 95 per cent level. Openness and population size are never statistically significant, and real income is significant only over the whole pool. R-squares are around 50 per cent over the whole pool and also for the 1990s (lower for earlier decades).

When we add our ethnicity variables to the regressions, R-square values rise substantially, as do the t-statistics for each variable. Coefficients on diversity are generally negative, as more diverse donors give less foreign aid. The ETHNIC2 variable is most closely correlated. In that case, the R-square is an astonishingly high 80 per cent for the 1990s, and 75 per cent for the 1980s, with correspondingly high t-statistics for each individual variable. However, the other ethnicity variables also perform well, and we note that the closeness of the correlation improves over time suggesting perhaps that, as these countries' foreign aid programmes mature, they are converging towards common patterns of behaviour. We interpret these results to mean that economic factors (mainly income and government size) plus diversity do an excellent job of explaining patterns of foreign aid provision.

All four of the variables used to capture ethnolinguistic diversity are one-dimensional shadows of a nuanced, multidimensional picture. To give us a less ambiguous measure of diversity we test the same model with MIGR, the proportion of the population that are new migrants in 1993. (Note that this number is negative for Japan: the only donor country to suffer out-migration in the 1990s – a fact that reveals much about Japan's relative standard of living.) Appendices 7A and 7B present these estimates, showing strikingly similar results.

How Does Diversity Affect Economic Growth?

We investigate correlations between diversity and growth using the same approach as for government spending, with regression results reported in

Table 7.3: Regression Results Explaining Foreign Aid Intensity Using All Economic Variables.

	No Ethnicity Variable			Ethnicity = ETHNIC1			Ethnicity = ETHNIC2			Ethnicity = LANG			Ethnicity = OPPO		
	R ²	est.coef.	t-ratio	R ²	est.coef.	t-ratio	R ²	est.coef.	t-ratio	R ²	est.coef.	t-ratio	R ²	est.coef.	t-ratio
<i>Whole panel (N = 68)</i>															
POP	0.521	-2.27E-08	-1.43	0.527	-2.07E-08	-1.32	0.630	-2.21E-08	-2.19	0.527	-2.27E-08	-1.50	0.527	-1.49E-08	-0.94
RGDP		1.16E-06	4.95		1.19E-06	5.01		1.41E-06	6.07		1.22E-06	5.13		1.34E-06	5.19
GVT		6.12E-04	3.14		5.39E-04	2.52		4.20E-04	3.07		5.34E-04	2.64		5.14E-04	2.63
OPEN		3.19E-05	1.00		4.78E-05	1.28		3.69E-05	1.80		4.51E-05	1.39		1.15E-05	0.35
[ethnicity]					-3.69E-03	-0.79		-1.04E-02	-4.81		-6.38E-03	-1.16		1.90E-04	1.67
CONSTANT		-1.73E-02	-5.08		-1.69E-02	-5.00		-1.52E-02	-5.49		-1.69E-02	-5.00		-2.35E-02	-4.74
<i>1960s data only (N = 17)</i>															
POP	0.062			0.022			0.096			0.046					
RGDP		5.01E-09	1.37		4.07E-09	1.03		4.84E-09	1.35		4.63E-09	1.25	-0.015	4.49E-09	1.07
GVT		5.43E-08	0.71		3.51E-08	0.42		-5.26E-09	-0.06		3.09E-08	0.38		3.75E-08	0.39
OPEN		4.41E-05	0.84		5.80E-05	1.02		6.25E-05	1.16		6.72E-05	1.14		4.93E-05	0.86
[ethnicity]		1.89E-06	0.24		-2.52E-06	-0.25		1.51E-06	0.19		-8.76E-07	-0.10		2.57E-06	0.30
CONSTANT		-5.81E-04	-0.59		7.16E-04	0.72		8.66E-04	1.20		1.09E-03	0.90		-8.21E-06	-0.30
<i>1970s data only (N = 17)</i>															
POP	0.357	-1.64E-09	-0.17	0.299	-1.67E-09	-0.16	0.515	-2.06E-09	-0.24	0.358	-1.36E-09	-0.14	0.319	-3.76E-10	0.03
RGDP		3.17E-07	1.21		3.15E-07	0.94		7.16E-07	2.47		4.72E-07	1.56		4.50E-07	1.27
GVT		2.62E-04	2.22		2.63E-04	1.79		1.99E-04	1.87		2.15E-04	1.70		2.39E-04	1.87
OPEN		4.18E-05	1.92		4.15E-05	1.30		4.90E-05	2.56		5.45E-05	2.17		3.73E-05	1.58
[ethnicity]					4.55E-05	0.01		-4.54E-03	-2.21		-4.02E-03	-1.01		5.19E-05	0.58
CONSTANT		-6.46E-03	-1.82		-6.44E-03	-1.58	0.749	-9.02E-03	-2.74	0.353	-7.68E-03	-2.05	0.242	-9.11E-03	-1.56
<i>1980s data only (N = 17)</i>															
POP	0.273	-1.10E-08	-0.60	0.211	-1.04E-08	-0.54	0.749	-1.37E-08	-1.27	0.353	-1.32E-08	-0.76	0.242	-6.93E-09	-0.35
RGDP		6.56E-07	1.17		7.36E-07	1.10		1.87E-06	4.53		1.36E-06	1.97		1.03E-06	1.33
GVT		4.81E-04	2.17		4.42E-04	1.58		2.16E-04	1.54		3.29E-04	1.43		4.08E-04	1.64
OPEN		4.26E-05	1.23		5.22E-05	0.99		7.06E-05	3.33		8.38E-05	2.00		3.27E-05	0.86
[ethnicity]					-2.01E-03	-0.23		-1.44E-02	-4.87		-1.45E-02	-1.58		1.41E-04	0.71
CONSTANT		-1.17E-02	-1.39		-1.25E-02	-1.34	0.798	-2.13E-02	-4.01	0.451	-1.93E-02	-2.08	0.505	-1.36E-02	-1.39
<i>1990s data only (N = 17)</i>															
POP	0.459	-4.70E-08	-1.31	0.421	-4.75E-08	-1.28	0.798	-5.58E-08	-2.53	0.451	-5.44E-08	-1.47	0.505	-4.07E-08	-1.18
RGDP		1.83E-06	1.60		2.06E-06	1.60		3.32E-06	4.30		2.54E-06	1.82		3.09E-06	2.21
GVT		1.31E-03	3.10		1.20E-03	2.42		9.85E-04	3.66		1.21E-03	2.72		1.12E-03	2.62
OPEN		5.04E-05	0.77		7.58E-05	0.87		8.08E-05	1.99		8.29E-05	1.10		8.51E-06	0.12
[ethnicity]					-6.32E-03	-0.46		-2.31E-02	-4.59		-1.47E-02	-0.90		4.70E-04	1.45
CONSTANT		-3.37E-02	-1.93		-3.61E-02	-1.92		-4.61E-02	-4.18		-4.23E-02	-2.11		-6.24E-02	-2.41

Note: t-ratios for regressions on pooled data use panel-corrected standard errors computed with Shazam (8.0)'s OLS/HETCOV option.

Table 7.4: Regression Results Explaining Economic Growth.

A. The Simple Growth Model ($n = 117$)	
	<i>t-ratio sig.</i>
pop60	4.66E-06 ***
gdp60	6.82E-05 ***
open60	1.47E-02 ***
constant	9.98E-01 ***
$R^2 =$	10.4%

Notes: Dependent variable is annual growth in per capita real GDP, 1960-99, estimated by OLS method from Penn World Tables 5.6 data series CGDPC.H. Units are percentage points (dependent variables); thousands of persons (pop60); US dollars at PPP prices (gdp60); and percentage points (open60). All independent variables are measured as 1960-62 averages. Standard errors are corrected for heteroscedasticity using STATA's 'robust'. Significance levels are 99% (***), 95% (**), and 90% (*).

B. The Growth Model with Diversity Effects					
Diversity = ETHNIC1 ($n = 105$)		Diversity = ETHNIC2 ($n = 113$)		Diversity = LANG ($n = 95$)	
	<i>t-ratio sig.</i>		<i>t-ratio sig.</i>		<i>t-ratio sig.</i>
pop60	1.95 *	4.23E-06	2.86 ***	4.98E-06	3.73 ***
gdp60	-0.69	-2.41E-05	-0.44	-1.29E-04	-1.78 *
open60	4.42 ***	1.41E-02	3.38 ***	1.73E-02	4.56 ***
diversity	-3.69 ***	-2.70E-02	-3.59 ***	-3.56E-02	-4.50 ***
constant	3.92 ***	2.07E+00	4.47 ***	2.68E+00	4.66 ***
$R^2 =$	23.7%	20.6%		27.9%	

Notes: As above, plus diversity measures are ETHNIC1, probability out of 100 that two randomly selected people will belong to the same ethnolinguistic group (ELF-60 measure of Easterly and Levine 1997); ETHNIC2, percentage of people outside the dominant group (EH of Vanhanen 1991); or LANG, probability that two people will speak different languages (from Easterly and Levine 1997).

Table 7.4: Continued.

C. The Growth Model with Diversity and Tropics Effects					
	<i>Diversity = ETHNIC1 (N = 105)</i>	<i>Diversity = ETHNIC2 (N = 113)</i>	<i>Diversity = LANG (N = 95)</i>		
	<i>coef.</i>	<i>t-ratio sig.</i>	<i>coef.</i>	<i>t-ratio sig.</i>	<i>t-ratio sig.</i>
pop60	8.59E-06	2.00 **	5.15E-06	3.99 ***	5.54E-06 ***
gdp60	-2.45E-01	-4.07 ***	-2.50E-01	-4.28 ***	-3.20E-04 ***
open60	1.98E-02	5.28 ***	1.81E-02	1.82 ***	2.09E-02 ***
diversity	-1.78E-02	-2.73 ***	-1.30E-02	-1.91 *	-2.48E-02 ***
tropics	-1.31E+00	-1.69 ***	-2.22E+00	-5.88 ***	-5.21 ***
constant	3.32E+00	7.21 ***	3.37E+00	7.75 ***	2.06E+00 ***
R ²	33.6%		36.1%		34.7%

Note: As above, but 'tropics' is dummy variable set to 1 for countries whose absolute latitude, as reported by Hall and Jones (1996), falls within 30 degrees of the equator.

D. The Growth Model with Diversity, Tropics and Interaction Effects					
	<i>Diversity = ETHNIC1 (N = 105)</i>	<i>Diversity = ETHNIC2 (N = 113)</i>	<i>Diversity = LANG (N = 95)</i>		
	<i>coef.</i>	<i>t-ratio sig.</i>	<i>coef.</i>	<i>t-ratio sig.</i>	<i>t-ratio sig.</i>
pop60	8.70E-06	2.11 **	5.11E-06	2.57 **	5.96E-06 ***
gdp60	-3.75E-03	-3.82 ***	-2.91E-03	-2.66 ***	-1.10E-03 ***
open60	2.01E-02	5.67 ***	1.77E-02	4.23 ***	2.02E-02 ***
diversity	-2.16E-02	-2.78 ***	1.61E-02	-1.85 *	-3.22E-02 ***
tropics	-1.83E+00	-4.76 ***	-2.22E+00	-5.07 ***	-5.10 ***
gdpXdiv					2.02E+00
constant	3.68E-06	1.88 *	1.86E-06	0.56	5.18E-06 *
R ²	34.6%		36.3%		42.5%

Note: As above, but 'gdpXdiv' is the interaction of gdp60 with diversity.

Table 4. The first set of results, in section (a), reports results for a stylized growth model, building on Adam Smith's³³ principle that growth depends on the 'extent of the market', which we measure by both national population and the relative volume of international trade, augmented by the Solow³⁴-Swan³⁵ model of diminishing returns to additional resources, with the initial level of resources measured by initial income. In fact, the entire regression can be interpreted as a test of the Solow-Swan model, with the extent of the market as a proxy for the (unobserved) profitability and level of new investment, and the level of initial income as a proxy for the (unobserved) profitability and level of past investment. The regression finds strong support for the extent-of-the-market model, but none for diminishing returns, and in any case, the total amount of cross-country variance that is explained is quite small (about 10 per cent).

To assess the impact of ethnolinguistic diversity we add the three major diversity indexes in section (b) of the table. Doing so more than doubles the equations' R^2 values, raises the magnitudes of the extent-of-the-market variables, and the coefficient on initial income is still indistinguishable from zero (although its estimated sign has turned negative as the Solow-Swan theory predicts). Diversity itself has a significantly negative coefficient, but the magnitude is extremely small: a 1 per cent higher level of heterogeneity is associated with a decrease in the average annual growth rate of 0.026 to 0.036 per cent (between two and four *one hundredths* of 1 per cent). In contrast, the magnitude of the coefficient on population is relatively large: incorporating an additional million people would increase growth by 0.4 to 0.9 one hundredths of 1 per cent. To take an arbitrary example, if Canada had joined the United States in 1960, Canada's additional population of 184 million would have added around one percentage point to former Canadians' average annual growth rate, while former US citizens gained one tenth as many people and would have gained a tenth of 1 per cent in annual growth.

The diversity effect alone, however, still leaves us with R-square values of under 30 per cent. We can raise them substantially by controlling for a major determinant of the pay-off to investment: namely, whether a country is located in the tropics. This particularly affects the productivity of agricultural investment, as the tropics are characterized by extreme biodiversity and interspecific competition from parasites, diseases and weeds. Being in the tropics might have many other effects as well. In any case, its influence on investment productivity is visible through the tropical-dummy variable's impact on the initial-GDP coefficient. Controlling for tropical location gives statistical significance to the Solow-Swan hypothesis, revealing strong diminishing returns to new investment.

Although our model is still extremely stylized, judicious choice of variables allows it to explain from 33 to 42 per cent of the growth differences across countries – a remarkable performance for such a sparse model, using only five independent variables. Many studies using growth models like ours,

which is in the tradition initiated by Barro,³⁶ employ a dozen or more regressors. Sala-i-Martin³⁷ identifies over 20 variables that are very likely to be significant, out of a total of 59 drawn from previous studies. However, it is often not clear how these variables affect growth, so their significance could well come at the expense of other regressors with which they are correlated. As a result, we stop adding new variables here, but consider one more question: is the impact of diversity on growth independent of initial income, or related to it?

To test the link between diversity effects and initial income, we include interaction terms in all three regressions: these turn out to be significantly positive in two of the three cases (with *ETHNIC1* and *LANG*), as higher diversity reduces growth more in low-income than in high-income countries. This simple result is undoubtedly our most important one, since it provides the only direct test done to date of whether the low incomes observed to correlate with diversity are a result or a cause of that diversity.

CONCLUSION

Much additional work remains to be done to analyse the links between ethnolinguistic groupings and economic performance, but our initial evidence suggests that ethnolinguistic fractionalization may be an economic response to scarcity and risk, as ethnolinguistic networks are used to provide various services such as job search, social insurance and informal credit.

That ethnolinguistic divisions are used implies that they benefit those who use them – but they reduce aggregate growth, which implies that they are costly to others in the society. One way in which they reduce growth is by reducing investment in public goods, but there may be other effects as well.

The total effect of ethnolinguistic divisions on growth is lower at higher levels of income, suggesting that periods of recent or expected future economic growth provide ‘windows of opportunity’ for social integration, which themselves contribute to further growth. In addition, the effect of ethnolinguistic divisions on growth is small in magnitude, relative to the effect of country size on growth – thus, it appears that, even where ethnolinguistic divisions are economically costly, responding to those divisions by unifying people in larger countries can have a significant economic profit.

NOTES

1. A. Alesina, R. Baqir and W. Easterly, ‘Public Goods and Ethnic Divisions’, *Quarterly Journal of Economics*, 114 (November 1999), pp. 1243–84.
2. See J.N. Schubert and M. Tweed in this volume.
3. See S.K. Sanderson in this volume.

4. B. Lian and J.R. Oneal, 'Cultural Diversity and Economic Development: A Cross-National Study of 98 Countries, 1960-85', *Economic Development and Cultural Change* 46, 1 (October 1997), pp. 61-78.
5. W. Easterly and Ross Levine, 'Africa's Growth Tragedy: Policies and Ethnic Divisions', *Quarterly Journal of Economics*, 112, 4 (1996), pp. 1203-50.
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22. William Petersen, *Ethnicity Counts* (New Brunswick: Transaction, 1997).
23. T. Vanhanen, *Politics of Ethnic Nepotism: India as an Example* (New Delhi: Sterling, 1991).
24. See Easterly and Levine, 'Africa's Growth Tragedy', pp. 1203-50.
25. See Vanhanen, *Politics*, p. 23.
26. See Easterly and Levine, 'Africa's Growth Tragedy', pp. 1203-50.
27. See Vanhanen, *Politics*.
28. D. Rodrik, 'Why do More Open Economies Have Bigger Governments?' *Journal of Political Economy*, 106 (1998), pp. 997-1032.
29. A. Alesina and R. Wacziarg, 'Openness, Country Size and Government', *Journal of Public Economics*, 69, 3 (1998), pp. 305-21.
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31. See Sanderson, this volume.

32. See Alesina, Baqir and Easterly, 'Public Goods'.
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Appendix 7.1: Countries Included and Omitted from World-Wide Samples

All Countries $N = 1251$		Not in LING		Not in ETHNIC1		Not in ETHNIC2 and OPTO	
Algeria	Ethiopia	Madagascar	Bangladesh	Bangladesh	Hong Kong		
Angola	Fiji	Malawi	Barbados	Cape Verde Islands	Iraq		
Argentina	Finland	Malaysia	Burundi	China	Ireland		
Australia	France	Mali	Cape Verde Islands	Comoros	Namibia		
Austria	Gabon	Malta	Central African Republic	Czechoslovakia	Puerto Rico		
Bangladesh	Gambia	Mauritania	Comoros	Fiji	Reunion		
Barbados	Germany West	Mauritius	Congo	Guinea-Bissau	Saudi Arabia		
Belgium	Ghana	Mexico	Fiji	Iraq	Seychelles		
Benin	Greece	Morocco	Gabon	Iraq	Taiwan		
Bolivia	Guatemala	Mozambique	Gambia	Namibia	USSR		
Bosswana	Guinea	Myanmar	Germany West	Puerto Rico	Uganda		
Brazil	Guinea-Bissau	Namibia	Guinea-Bissau	Reunion			
Burkina Faso	Guyana	Nepal	Guyana	Romania			
Burundi	Haiti	Netherlands	Iraq	Saudi Arabia			
Cameroon	Honduras	New Zealand	Iraq	Seychelles			
Canada	Hong Kong	Nicaragua	Luxembourg	Suriname			
Cape Verde Islands	Iceland	Niger	Malawi	Swaziland			
Central African Republic	India	Nigeria	Malaysia	USSR			
Chad	Indonesia	Norway	Mauritius	Uganda			
Chile	Iran	Pakistan	Mexico	Yugoslavia			
China	Iraq	Panama	Namibia				
Colombia	Ireland	Papua New Guinea	Reunion				
Comoros	Israel	Paraguay	Saudi Arabia				
Congo	Italy	Peru	Seychelles				
Costa Rica	Ivory Coast	Philippines	Suriname				
Cyprus	Japan	Portugal	Swaziland				
Czechoslovakia	Jordan	Puerto Rico	Tanzania				
Denmark	Kenya	Reunion	USSR				
Dominican Rep.	Korea Republic	Romania	Uganda				
Ecuador	Lesotho	Rwanda	Uruguay				
Egypt	Liberia	Saudi Arabia					
El Salvador	Luxembourg	Senegal					

Appendix 7.1: Continued

All Countries ($N = 125$)		Not in LANG	Not in ETHNIC1	Not in ETHNIC2 and OPPO
Seychelles	Switzerland			
Sierra Leone	Syria	USA		
Singapore	Taiwan	USSR		
Somalia	Tanzania	Uganda		
South Africa	Thailand	Uruguay		
Spain	Togo	Venezuela		
Sri Lanka	Trinidad and Tobago	Yugoslavia		
Suriname	Tunisia	Zaire		
Swaziland	Turkey	Zambia		
Sweden	UK	Zimbabwe		

Notes: All countries' sample has data for each economic variable from PWT 3.6; 'Not in LANG' and 'Not in ETHNIC1' countries are omitted from sample with LANG and ETHNIC1 variables (from Easterly and Levine 1997); 'Not in ETHNIC2 and OPPO' countries are omitted from sample with those variables (from Vanhanen 1991). For Sierra Leone, missing values for 1960 are set to 1961 observations. For Angola, Barbados, Botswana, Ethiopia, Haiti, Iraq, Liberia, Malta, Nepal, Niger, Puerto Rico, Reunion, Romania, Saudi Arabia, Somalia, Suriname, Swaziland, Tanzania, USSR and Zaire, values are missing for 1960 and set to 1969 observations.

Appendix 7.2: National Data Used in All Regressions

	GDP60 90	POP60 62	GDP60 62	GVT60 62	OPEN60 62	GVT61 90	OPEN61 90	ETHNIC1	ETHNIC2	LANG	OPPO
Algeria	2.79%	11017	1532	20	63	28	38	13%	17%	37%	2%
Angola	-1.48%	1919	961	12	37	22	10	78%	63%	76%	0%
Argentina	0.33%	20911	1389	11	17	11	25	3%	3%	27%	25%
Australia	2.11%	10300	7778	8	31	13	25	32%	1%	1%	32%
Austria	3.02%	7088	3337	13	47	11	96	13%	1%	0%	31%
Bangladesh	0.76%	33199	963	18	25	25	69	22%	13%	0%	0%
Barbados	3.52%	232	2828	7	107	12	132	22%	4%	22%	2%
Belgium	2.70%	9168	3753	9	80	19	152	53%	12%	16%	11%
Benin	0.30%	2102	1088	28	20	21	65	62%	11%	66%	1%
Bolivia	1.31%	3508	1172	13	51	25	76	68%	33%	60%	16%
Bosswana	6.01%	191	539	15	36	21	67	51%	66%	30%	7%
Brazil	3.51%	71818	1860	12	12	9	51	7%	17%	0%	7%
Burkina Faso	1.01%	1184	132	13	11	20	11	68%	16%	32%	0%
Burundi	0.13%	2967	589	3	21	20	11	1%	17%	70%	0%
Cameroon	3.16%	5128	666	11	30	17	50	89%	79%	70%	0%
Canada	3.03%	18265	7375	11	37	13	77	75%	39%	33%	25%
Cape Verde Islands	3.16%	203	169	3	135	17	79	30%	30%	2%	2%
Central African Republic	-0.53%	1630	706	30	64	23	57	68%	68%	35%	0%
Chad	-2.91%	3119	772	22	35	23	36	83%	70%	0%	0%
Chile	0.71%	7883	2988	17	28	18	38	11%	10%	0%	0%
China	3.69%	661393	196	10	8	11	25	6%	6%	10%	0%
Colombia	2.16%	16281	1729	9	27	23	15	6%	30%	13%	1%
Comoros	0.18%	202	551	16	53	36	81	1%	1%	0%	0%
Congo	3.28%	972	1125	27	101	30	87	66%	48%	0%	0%
Costa Rica	1.63%	1298	2128	17	18	18	90	7%	15%	11%	17%
Cyprus	1.31%	575	2223	19	78	22	47	35%	19%	25%	32%
Czechoslovakia	3.53%	13752	1691	23	28	25	67	36%	36%	36%	0%
Denmark	2.25%	1613	7139	13	63	31	63	5%	1%	6%	12%
Dominican Republic	2.38%	3122	1231	11	10	11	54	1%	25%	0%	17%
Ecuador	2.48%	1703	1160	11	34	25	55	53%	30%	20%	14%
Egypt	3.17%	26555	829	25	10	20	54	1%	6%	2%	0%
El Salvador	0.51%	2660	1171	15	15	27	13	17%	6%	1%	12%
Ethiopia	0.38%	23088	261	11	21	25	74	69%	70%	69%	0%
Fiji	2.18%	107	2133	13	61	19	77	30%	30%	19%	19%
Finland	3.26%	1461	5569	10	11	15	50	16%	6%	20%	11%
France	2.76%	16282	6101	11	26	17	68	25%	7%	3%	28%

Appendix 7.2: Continued

	Gro60-90	POP60-62	GDP60-62	GVT60-62	OPEN60-62	GVT81-90	OPEN81-90	ETHNIC1	ETHNIC2	LANG	OPPO
Gabon	2.31%	464	1960	9	78	26	102	69%	66%		0%
Gambia	1.18%	381	567	17	68	22	99	73%	57%		10%
Germany West	2.51%	56149	6803	12	34	18	42	3%	7%		39%
Ghana	-0.46%	7012	921	9	49	18	39	71%	56%	58%	0%
Greece	3.79%	8391	2249	10	26	14	83	10%	5%	11%	35%
Guatemala	1.00%	4008	1680	7	28	14	49	64%	50%	60%	6%
Guinea	1.45%	3906	583	9	32	22	60	75%	59%	72%	0%
Guinea-Bissau	0.38%	537	497	15	36	32	88		73%		0%
Guyana	-0.74%	551	1575	17	103	28	81	58%	49%		7%
Haiti	0.07%	3923	904	13	39	18	49	1%	5%	20%	0%
Honduras	1.19%	2002	1039	12	45	12	140	16%	10%	5%	18%
Hong Kong	6.41%	3165	2388	1	180	9	148	2%	8%		
Iceland	3.75%	179	4995	11	90	23	44	5%	3%	35%	33%
India	1.67%	444371	759	27	12	22	32	89%	60%	70%	16%
Indonesia	4.54%	96521	652	12	19	14	34	76%	60%	64%	4%
Iran	0.36%	21014	2907	5	35	25	39				
Iraq	0.13%	7061	3594	22	65	25	93				
Ireland	3.17%	2827	3468	12	71	24	95	4%	17%	32%	32%
Israel	3.17%	2197	3744	22	44	22	60	20%	2%	38%	32%
Italy	3.22%	50522	4897	11	26	16	56	4%	2%	5%	44%
Ivory Coast	0.67%	3958	1152	9	66	18	88	86%	80%	76%	0%
Japan	4.87%	94964	3286	10	20	19	70	1%	1%	1%	26%
Jordan	4.11%	1746	1259	18	57	26	85	5%	2%	5%	0%
Kenya	1.51%	8344	604	11	58	17	62	83%	79%	75%	0%
Korea Republic	7.05%	25424	917	13	19	14	84	0%	0%	0%	3%
Lesotho	4.47%	889	328	7	68	29	127	22%	10%	29%	0%
Liberia	0.12%	1078	730	15	80	17	154	83%	73%	69%	12%
Luxembourg	2.33%	319	8239	7	162	14	114	15%	26%	114	28%
Madagascar	-1.99%	5464	1185	11	36	23	44	6%	74%	13%	9%
Malawi	1.01%	3609	393	17	59	23	86	62%	41%		0%
Malaysia	4.56%	8449	1479	11	86	20	86	72%	56%		11%
Malta	0.64%	4278	518	17	24	21	105	78%	67%	79%	0%
Mali	6.14%	329	1361	16	122	20	140	8%	6%	33%	32%
Mauritania	0.08%	997	817	23	71	19	119	33%	20%	25%	0%
Mauritius	2.22%	675	3067	9	71	13	73	58%	32%		23%
Mexico	2.57%	39484	2866	5	19	13	51	30%	45%		8%

Appendix 7.2: Continued

	GRO60 90	PO60 62	GDR60 62	GN*60 62	OPEN60 62	GN*TH 90	OPEN90 90	ETHNIC1	ETHNIC2	LXNG	OPPO
Morocco	2.77%	12223	973	11	13	29	32	53%	1%	36%	4%
Mozambique	2.16%	7719	1178	22	19	28	31	63%	18%	71%	0%
Myanmar	1.86%	22256	334	20	42	28	76	47%	32%	38%	0%
Namibia	1.34%	790	1832	14	75	40	95				
Nepal	1.91%	9386	620	25	16	27	78	70%	46%	36%	0%
Netherlands	2.39%	11614	6233	13	48	13	82	10%	61%	2%	10%
New Zealand	1.30%	2133	8069	11	17	21	37	37%	10%	1%	31%
Nicaragua	- 0.96%	1626	1703	8	19	29	51	18%	31%	12%	6%
Niger	- 0.32%	3316	566	26	22	24	46	73%	18%	72%	0%
Nigeria	2.30%	32930	557	12	20	21	62	87%	71%	81%	0%
Norway	3.19%	3610	5817	12	85	23	84	1%	2%	10%	36%
Pakistan	2.29%	17191	636	15	28	24	51	61%	31%	33%	0%
Panama	2.32%	1180	1682	19	71	29	83	28%	30%	8%	15%
Papua New Guinea	0.11%	1975	1327	36	11	21	73	17%	17%	81%	25%
Paraguay	2.46%	1473	1207	13	31	15	42	11%	10%	11%	3%
Peru	0.15%	10211	2113	13	11	16	42	59%	46%	30%	18%
Philippines	1.31%	28757	1168	12	28	13	15	71%	7%	70%	5%
Portugal	1.19%	8967	1980	10	12	18	101	1%	1%	0%	32%
Puerto Rico	2.32%	2128	3356	10	101	24	110			8%	
Reunion	3.68%	318	1162	24	71	21	49		11%	11%	2%
Romania	5.86%	14338	153	3	25	15	37		12%	10%	0%
Rwanda	2.18%	2836	503	17	21	28	57	14%			
Saudi Arabia	2.18%	4211	4138	11	71	28	77				
Senegal	0.20%	3381	1071	26	60	31	89	72%	65%	77%	3%
Seychelles	4.17%	13	1233	17	46	34	72				
Sierra Leone	- 0.35%	2362	923	28	88	20	195	77%	68%	76%	1%
Singapore	7.38%	1700	1733	6	309	19	256	12%	25%	12%	13%
Somalia	- 1.30%	2634	1156	7	30	22	56	8%	3%	16%	0%
South Africa	1.32%	18412	2232	11	51	17	46	48%	20%	82%	2%
Spain	3.03%	30756	3479	9	19	15	52	14%	27%	26%	28%
Sri Lanka	2.27%	10136	1222	21	49	20	99	17%	26%	31%	17%
Suriname	1.17%	298	2042	16	101	27	120	63%	63%		0%
Swaziland	1.47%	316	1473	31	81	25	101	3%	3%	6%	0%
Sweden	2.00%	7521	7927	15	11	16	69	8%	3%	6%	37%
Switzerland	1.55%	5457	9936	7	60	13	58	30%	33%	33%	25%
Syria	3.71%	4706	1703	9	18	16	70	22%	11%	9%	0%

Appendix 7.2: Continued

	Gro80 90	POP60 62	GDP60 62	GVT60 62	OPEN60 62	GVT81 90	OPEN81 90	ETHNIC1	ETHNIC2	LANG	OPO
Taiwan	6.49%	11151	1303	19	32	25	68	42%	93%	30%	1%
Tanzania	1.63%	10333	316	21	60	26	46	93%	66%	29%	4%
Thailand	4.19%	27222	966	10	37	22	78	66%	71%	63%	0%
Togo	1.45%	1359	368	25	67	26	99	71%	31%	22%	17%
Trinidad and Tobago	1.71%	807	3913	1	121	13	76	36%	24%	10%	0%
Tunisia	3.83%	4298	1116	15	30	13	60	16%	13%	15%	12%
Turkey	2.68%	28207	1611	9	16	13	46	25%	6%	2%	32%
UK	2.12%	32973	6921	17	12	16	36	32%	17%	11%	13%
USA	1.90%	183632	10066	13	5	11	18	30%			
USSR	4.16%	217915	2332	8	5	13	22				
Uganda	0.09%	6813	365	17	23	16	59	20%	10%	37%	17%
Uruguay	0.73%	2568	3929	7	30	26	73	11%	31%	10%	0%
Venezuela	0.35%	7596	6191	10	16	18	66	61%	61%	25%	0%
Yugoslavia	3.71%	18611	1990	24	31	16	48	90%	82%	81%	0%
Zaire	0.99%	16291	513	18	18	28	39	82%	80%	1%	1%
Zambia	1.02%	3230	956	14	95	32	63	82%	66%	30%	4%
Zimbabwe	0.97%	3750	979	7	86	21	59	51%	20%		

Notes: 1960 value set to 1961 for Sierra Leone, 1990 set to 1989 for Angola, Barbados, Botswana, Ethiopia, Haiti, Iraq, Liberia, Malta, Nepal, Niger, Puerto Rico, Reunion, Romania, Saudi Arabia, Somalia, Suriname, Swaziland, Tanzania, USSR and Zaire.

Sources: Detailed in text.

Ethnic Diversity, Foreign Aid, Economic Growth,
Population Policy, Welfare, Inequality, Conflict,
and the Costs of Globalism:
A Perspective on W. Masters'
and M. McMillan's Findings

Frank Kemp Salter

William Masters' and Margaret McMillan's (hereafter M&Mc) key insight is to broaden the definition of welfare to encompass wealth derived from employment as well as government provision. It is not enough for policy purposes, they imply, to determine whether ethnic diversity depresses government welfare, since diversity might have other positive effects that result in overall higher income. This widening of the debate makes good sense, though I think that to be consistent we should account for social and ecological components of wealth as well as personal income. Such an accounting is the purpose of this commentary.

M&Mc achieve much in their policy-oriented chapter, providing sophisticated empirical backing to the orthodox liberal-market view that a growing economic pie ameliorates ethnic problems. Their message is that, despite a generally retarding effect of ethnic diversity on economic growth, the effect is significantly reduced when an economy begins from a wealthy position. High standards of living brought about by continual economic expansion minimize ethnic conflict because, in times of plenty, individual economic strategies pay off more than do collective ethnic strategies. M&Mc are thus optimistic about ethnic amalgamation since larger markets grow faster and economic growth defuses ethnic conflicts. The process works, they think, because ethnic conflict is really individual economic competition by other means. This view follows from M&Mc's highly instrumental conceptualization of ethnicity. In this view, ethnicity is a category arbitrarily defined by individuals to meet individual economic needs. By implication, there are no genetic or other non-economic interests vested in ethnic groups, at least none that cannot be eliminated by education. Indeed, in M&Mc's view, ethnic solidarity offers mainly potential costs, especially in the form of inter-ethnic crimes. Accordingly, they designate ethnocentric ideas as 'sins' and prescribe the punishment of acts that flow from such ideas.

In summary, I agree that economic growth tends to ameliorate intra-state ethnic conflict, while taking issue with the notion that ethnic diversity is a general public good. M&Mc's own analysis indicates significant economic and ecological costs of diversity, while failing to consider the latter's effect on the quality of social life, such as the serious social problem of inequality. These multiple costs raise grave doubts about M&Mc's policy recommendation of indiscriminate amalgamation, and thus about the rapid ethnic diversification currently occurring in the United States and some other Western societies.

DIVERSITY AND FOREIGN AID

However, I first want to draw attention to M&Mc's extraordinary finding that ethnic diversity depresses foreign aid payments, which is never clearly stated in their chapter. The authors are too modest. Their finding is that one measure of ethnic diversity alone accounts for 80 per cent of the between-country variance in foreign aid expenditure, controlling for income and government size. This seems to me to be strong evidence in support of the view that concerted national policy is most feasible in homogeneous societies. I would like to see this phenomenon explored further. A possible mechanism is that, because of the difficulty of achieving consensus in ethnically mixed societies, élites are unable to elicit long-term collective generosity on the part of taxpayers. When aid is forthcoming, it tends to be directed towards projects that serve the donor country's collective interests in some immediate or obvious manner, or is directed towards the co-ethnics of influential groups in the donor country.

Both M&Mc's finding about foreign aid and their findings about diversity and economic growth are surprises for my target paper. The simple evolutionary theory I deployed predicts that diversity will lower public altruism and group solidarity but raises few expectations about how these outcomes might influence overall economic performance. As MacDonald¹ has argued, many social phenomena are 'underdetermined' by evolutionary theory. Consider foreign aid expenditure. Ethnic Nepotism Theory predicts greater consensus within homogeneous societies than within diverse ones, but is less clear in predicting to which ends that consensus might be turned outside a country. My own surmise is that homogeneity could well have the opposite effect under different circumstances, perhaps when international opinion carries less weight or when poor mass communications impede the transmission of images of suffering around the globe. In such circumstances, foreign aid expenditure would reap less national prestige. The present trend might also be reversed if political fashion changed from one that de-emphasizes national sentiment to more inward-looking ethnocentrism. As most of the data on ethnicity and welfare attest, such a trend would be likely to increase welfare spending. For example, the leader of Norway's

anti-immigration Progress Party, with a national approval rating of 35 per cent, declared that, if elected, he would cut off all foreign aid and expand the welfare state.² Foreign aid might also suffer if rich Western countries, which dominate the lists of foreign aid givers, were exposed to images of their own peoples' suffering. Swedish, German, Japanese, and Danish peoples are not at present experiencing the poverty that might attract special sympathy from co-ethnics. Also, in these home countries there is not the level of inequality that is more typical of ethnically diverse societies; inequality that might tend to keep charity at home.

Another interpretation of M&Mc's findings is that ethnic homogeneity renders societies more co-operative internationally, as a general rule. Historical exceptions to this rule come readily to mind, and the reality of tribal and national endemic warfare between homogeneous ethnics is well documented.³ However, systematic studies find that greater collective violence (warfare) is practised by ethnically diverse societies.⁴

DIVERSITY AND ECONOMIC GROWTH

Economic growth is likely to be weakly determined by ethnic nepotism theory. In its present form, the theory is consistent with a number of outcomes. For example, in some circumstances diversity might improve overall economic growth by counteracting worker solidarity, resulting in weak trade unions, increased labour flexibility, lower unemployment, and more efficient capital investment. In fact, as M&Mc show, diversity appears to depress economic performance in all but the richest societies. The linkage probably has something to do with diversity's depressing effect on social capital.⁵ Knack and Keefer's 1997⁶ cross-national study of 29 market economies found that ethnic homogeneity correlates significantly with public trust and civic co-operation, which in turn correlate strongly with economic growth (especially in poorer countries). It will be a future research task to clarify the causal links between ethnic diversity and various economic outcomes. I suspect that ethnic nepotism theory will be useful but not sufficient in this project.

M&Mc show a statistically significant negative correlation between ethnic diversity and economic growth but state that it is very weak overall and grows even weaker in high-income versus low-income countries. The latter finding makes sense, but the conclusion that diversity's overall impact is weak is contradicted by both M&Mc's own figures as well as those of Easterly and Levine,⁷ who conducted a similar cross-national analysis of diversity and growth.

M&Mc focus on small degrees of diversity; degrees that are one and even two orders of magnitude less than found in many societies. M&Mc find that a 1 per cent rise in ethnic diversity reduces economic growth by 0.02 per cent

per year at the mean level of world income (\$2400). Easterly and Levine's (hereafter E&L) results are expressed in different units, but a comparison can be made by applying M&Mc's result to E&L's problem.⁸ E&L are trying to explain the growth differential between sub-Saharan Africa and East Asia, which averaged 3.4 per cent between 1960 and 1990. Multiplying M&Mc's result by the diversity differential between East Asia and Africa allows comparison of the two studies. African diversities range from 70 to 90 per cent (see E&L Table 3), while East Asian diversities are close to zero (e.g. Japan = 1, Hong Kong = 2). For a 70 per cent diversity differential, M&Mc find a 1.4 per cent effect, which is about 40 per cent of the East Asia-Africa growth differential. Yet M&Mc call their effect extremely small, because they focus on the effect of 1 per cent increase in diversity rather than the much greater differences that exist between countries and that are caused by mass migration and amalgamation of states.

E&L arrive at a similar figure by a different route. Their simple regression indicates that 'going from complete homogeneity to complete heterogeneity is associated with a fall in growth of 2.3 percentage points.' After controlling for other variables, E&L conclude that ethnic diversity alone accounts for about 30 per cent of the East Asia-Africa growth differential, comparable with the 40 per cent derived above from M&Mc's results.

The negative effect of diversity on economic growth found by both M&Mc and E&L translates into great losses over time. Based on M&Mc's figures, at 50 per cent diversity economic growth is reduced by one per cent at the mean income level, so that an economy will be about 8 per cent smaller in 10 years than it would have been without crossing the diversity threshold, 17 per cent smaller after 20 years, and 32 per cent after 40 years. The greatest impact, if M&Mc's figures are accepted, is suffered mainly by the poorest economies. The impact is tragic for those near or below the mean per capita income and economic growth of 2 per cent or less. When such economies are weighed down by 30–50 per cent diversity, they are hampered from growing out of the problem zone, even within several decades. For them, diversity is a burden that prolongs poverty, slows infrastructure development, and contributes to other problems of economic underdevelopment. Poor economies that manage to sustain robust growth for several decades can in principle become wealthy enough to ameliorate ethnic competition; but a high diversity rate will tend to prolong the process, increasing the risk of reversal. In short, diversity is a luxury only the wealthy can afford.

DIVERSITY AND POPULATION GROWTH

M&Mc might be mistaken about the absolute impact of diversity, but what about their claim that its effect is small compared to that of population increase? This part of their analysis has important implications for ecological

and social values. M&Mc's claim appears to be true for the wealthiest 10 per cent of countries, but is far from clear for the remainder, based on their own figures. Consider the summation: 'At the sample-mean level of initial income (\$2400/year), a 1% higher diversity level would ... be offset by an increased population size of only 1.8 to 3.3 million.'⁹

To get a grip on the practical implication of this finding, consider what it means at typical levels of diversity. To cancel the negative impact on growth of 10 per cent diversity requires a rise in population of 25.5 million people, at mean levels of income.¹⁰ This has profound ecological implications based on the environmental impact of human over-population. A population increase of 25.5 million is not large in proportion to the existing size of China, India, or even the United States, though in the last case this would add considerably to the level of environmental degradation in this high-consuming economy. However, for most of the 209 states and dependencies that existed in 1992 with less than 25 million inhabitants (out of a total of 245),¹¹ it represents a massive gain of at least 100 per cent. For the smallest 188 states and dependencies with populations below 12.7 million, it represents a gain of at least 200 per cent. It is an ecological concern that many societies are already near or in excess of the long-term carrying capacity of their natural resources. The lesson for countries seeking to control population while protecting prosperity is clear: avoid or minimize diversity.

A less startling estimate of diversity- versus population-effects on economic growth is provided by W. Masters.¹² He expresses population growth in percentage terms:

A 10% increase in pop. raises annual growth by 0.4%/yr.

A 10% increase in language heterogeneity reduces it by 0.3%/yr AT A ZERO LEVEL OF INCOME.

But AT THE MEAN LEVEL OF INCOME a 10% increase in language heterog. reduces growth by 0.2%/yr.

In this scenario, at the mean income level, ethnic amalgamation boosts economic growth at a rate of 0.2 per cent per 10 per cent increase in population (0.4 minus 0.2). Note, however, that the same economic gain can be achieved with half the population increase if the people being added are of the same ethnic group or close enough ethnically that they quickly assimilate. Historically, such rapid assimilation has not occurred between ethnic groups that are racially distinct when thrown together in large numbers (see below). Though the ecological implications are less drastic than in the original formulation, the thrust remains the same: ethnic diversity carries real economic and environmental costs. The policy indication is that most countries seeking to increase their economic growth by boosting population should try to amalgamate groups that are ethnically similar to themselves. In M&Mc's model, the wealthiest societies are exceptions to this rule; or are they?

IS DIVERSITY HARMLESS FOR RICH SOCIETIES?

What about M&Mc's finding that the debilitating effect of diversity decreases with rising income? They conclude that for rich economies, ethnic diversity causes little if any reduction in economic growth. This is a plausible claim, which I shall discuss below. But first I want to discuss the relationship between diversity and per capita income, rather than growth in income. Present income level is important because it tells us something about a country's history of economic growth. Countries with high incomes must have had a history of long-term robust economic growth. Diversity is strongly and negatively correlated with per capita income, as found by E&L: 'A movement from complete heterogeneity to complete homogeneity is associated with an income increase of 3.8 times.' E&L interpret this to indicate that diversity is a long-term drag on economic growth, and that in the past, mainly homogeneous countries have achieved high-income status. M&Mc offer the radically different interpretation that this effect is due to low income *causing* the creation of ethnic groups and thereby causing higher diversity. In their view, ethnic boundaries are arbitrary social constructs thrown up by individuals as a means of resource competition during times of scarcity. Take away poverty, they suggest, and ethnic divisions evaporate. In support of this view, they report their finding that ethnic diversity is not positively correlated with the population size of states, contrary to expectations if ethnic groups were evenly distributed around the world. '[P]erhaps ... even in the smallest countries, individuals can find ethnolinguistic differences to assert if they choose to do so - and even in the largest countries huge majorities can be put in the same category, if they are willing to be seen as similar.'

The contradiction between M&Mc's and E&L's position can be resolved by considering ethnic history and asking whether groups have emerged in response to poverty and disappeared during good times, or have existed independently of economic circumstance. E&L offer a historical description of the origins of African diversity as historically high in pre-colonial times, only to be exacerbated by colonial borders established in the nineteenth century. These borders cut through some groups, and pushed other groups together into the one state. We also know the ethnic histories of the relatively homogeneous Western and East Asian countries, recording the process of cultural and genetic assimilation between closely related peoples.¹³ There is little if any basis for asserting that ethnic boundaries have been invented for economic purposes.

M&Mc's instrumental view of ethnicity appears to rest on a confusion of ethnic identity and mobilization. The latter can change swiftly, but the former is slow to change. Ethnic groups can certainly be mobilized for purposes of defence or economic co-operation, but their identity is much less manipulable.¹⁴ The persistence of ethnic identity, especially when it has a

racial dimension, is understandable given the nature of ethnicity. Far from being arbitrary, ethnic groups are primordial descent groups that are longer lasting than other identity groups, such as classes. After many decades of promoting the universalist Marxist ideology of the brotherhood of the proletariat, the Soviet Union finally broke up along ethnic lines, as did Yugoslavia.¹⁵ Ethnicity is not immutable. Boundaries can and do change as groups are incorporated and breakaway populations develop different traditions after generations removed from the parent populations. However, permanent dissolution of an ethnic boundary requires intermarriage, and that ultimate form of assimilation tends to occur between closely related groups. Even in the contemporary United States, with its individualism, shared commercial culture and great wealth, intermarriage occurs mainly between ethnic groups of the same race, not between races.¹⁶

M&Mc are more plausible when they argue that reduced resource competition places a lower premium on ethnic solidarity (a primary form of mobilization), resulting in a lowering of ethnic conflict. This would probably result in less destructive economic decisions. This finding is supported by Knack and Keefer,¹⁷ who report that wealthy economies are less vulnerable to ethnic diversity's depressing effect on public trust, civic co-operation and economic growth. However, it does not follow that rising diversity *causes* a rise in economic growth when an economy starts from a wealthy position. M&Mc's original view, that at higher income levels diversity is positively correlated with economic growth, is not a direct empirical finding but a projection of their mathematical model.¹⁸ The situation described by their data is that high levels of income reduce the cost of diversity. This is a far cry from the assertion that diversity produces economic benefits in rich societies. Even if the model's projection is borne out by future empirical research, there are other interpretations than that diversity pushes growth. Economic growth might be accelerated by cheap or specialized immigrant labour with rising diversity an incidental effect. Since the mid-1960s, some Western societies have attracted high levels of non-Western immigration. However, well before this development, these countries dominated the ranks of the world's most successful economies, suggesting that for them, ethnic diversity is more a result than a cause of growing wealth.

Which policy ideas can be drawn from M&Mc's finding that the cost of diversity declines with a country's income level? It is important to note that only 26 countries out of approximately 200 have incomes sufficient to reduce the cost of diversity to insignificant levels (US\$6,200). The majority of societies that are below this threshold suffer from diversity, according to this finding. For these societies, the responsible way to achieve ethnic diversity, if that is seen as a worthwhile goal in its own right, is to maximize homogeneity (or minimize diversity) until an economy is strong enough to withstand high levels of heterogeneity. Only then should they lower the immigration barriers to the inevitable pressure of people searching for better living standards.

Unfortunately, even this route to multiculturalism is fraught with costs. Two problems are the economic cycles that characterize even the strongest economies and inequality.

THE RISK TO SOCIAL STABILITY POSED BY THRESHOLD EFFECTS

If there is a threshold effect for ethnic nepotism, as found by Schubert and Tweed (this volume), the retarding effect of diversity on economic growth could appear in one relatively large impact. The higher the threshold the more explosive the onset of problems should the threshold be crossed. To illustrate this point, assume a modest 10 per cent diversity threshold. When ethnic minorities number below this threshold, the majority does not feel threatened, and as a result, public altruism does not suffer; citizens continue co-operating to produce public goods, including redistributive welfare, other factors being equal. This provides some leeway for a population to grow through immigration or amalgamation with other countries, in order to enlarge the market and boost economic growth; but when diversity reaches 10 per cent, the cost of adding an extra percentage point to the size of the minority can become significant if this small increase triggers a reaction to the whole 11 per cent. Based on M&Mc's data, at the mean level of income the annual rate of economic growth would decline by 0.2 per cent.¹⁹ This looks small, but it is about 10 per cent of what is considered a healthy growth rate. Using these figures, accumulated over 20 years, 11 per cent diversity would result in an economy being about 4 per cent below the level it would have achieved if it had stayed below the threshold level of diversity. Accumulated over 40 years, the loss is about 8 per cent. These are large costs for the advantages, if any, of a 1 per cent gain in diversity.

Counting on perpetual economic growth to ameliorate ethnic problems could produce a disaster in race relations in hard economic times if we accept M&Mc's finding that low income exacerbates ethnic friction. In this view, the relatively low cost of diversity for wealthy countries facilitates higher levels of immigration by demobilizing the ethnic opposition that would otherwise have been expressed against it. Mobilized opposition, however, is likely to re-emerge should the economy go into recession and resource competition become more intense. Catastrophe theory provides a disturbingly good fit with this scenario. This is a set of mathematical methods 'used to study the ways in which a system can undergo sudden large changes in behaviour as one or more of the variables that control it are changed continuously'.²⁰ As in the case of models in catastrophe theory, threshold effects on ethnic nepotism indicate that worsening effects on ethnic relations can come in sudden escalations of conflict, despite an economy declining in a steady manner. Moreover, once a society's level of diversity has surpassed some threshold level, such crises can only be avoided by maintaining perpetual economic

growth. The system then acts like a pressure-release booby trap liable to be detonated by any deviation from economic growth that significantly increases internal resource competition. Economist George Borjas²¹ expresses a similar caution regarding high levels of immigration during good times: '[W]hat will happen when the economy hits a bump?'²² M&Mc's analysis, when combined with Schubert and Tweed's finding of a threshold effect, can thus be taken as implying a severe warning to those who recommend policies that would increase ethnic diversity during good times. The prudent time to increase long-term ethnic heterogeneity (slowly) is during bad economic times, when the local population is most sensitive to ethnic change.²³ If there is little opposition to a given change in ethnic composition at such a time, that change is likely to be sustainable, even during future economic downturns. Any negative reaction that does occur will be moderate because of the slow rate of change and can be ameliorated by halting immigration and taking measures to improve the economy. Such policies assume rational decision-making based on a valid theory of ethnic behaviour. Until now, the opposite has tended to occur, with diversity rising during good times only to be halted and often thrown convulsively into reverse in times of war and economic contraction.

WELFARE AND DIVERSITY

I now turn to two connected social costs of diversity that are not adequately analysed by M&Mc (or by E&L) - welfare and inequality. In their analysis of the welfare-diversity nexus, M&Mc look at government expenditure 'as a whole' rather than at redistributive welfare spending. No wonder they find weak correlations with diversity, a factor they admit is to be expected: '[T]his result could mask shifts in the composition of government spending between redistributive programs and productive public goods.' This is precisely the point made by Sanderson in this volume in explaining why his focus on redistributive welfare spending yielded a much higher negative correlation with ethnic diversity than did Vanhanen's (this volume) focus on welfare of all kinds.

M&Mc are aware of Sanderson's and Vanhanen's cross-national findings on diversity and welfare spending but dismiss them on the ground that they disagree with Schiff's²⁴ 1998 model of sub-Saharan African welfare spending. On the basis of this contradiction M&Mc conclude that, '[o]n balance, we have as yet no empirical tests of this proposition at the national level'. Yet the evidence reported by Schiff agrees with Sanderson and Vanhanen, because it is drawn from Easterly and Levine's 1997 study of ethnic divisions and economic decision-making in sub-Saharan Africa. This latter paper strongly supports the ethnic nepotism hypothesis and helped inspire this symposium (see my target paper quoted in Chapter 1). More importantly, the core of

Schiff's paper is not empirical. He constructs a mathematical model within which ethnic diversity impedes economic reform by creating greater demand for welfare and taxes. According to the model, poor economic decisions resulting from ethnic diversity impoverish the economy and reduce all benefits. This is very different from finding that ethnic diversity is in fact correlated with higher redistributive welfare. Schiff prescribes a level of welfare sufficient to co-opt disadvantaged groups, but again this is not a descriptive statement. He believes that his model helps explain why inter-ethnic redistribution is resisted and resented in sub-Saharan countries, entirely in agreement with the target chapter, as well as Sanderson's and Vanhanen's analyses in this volume.

Schiff is a poor choice of authority for casting doubt on Sanderson's and Vanhanen's results, since he is suspicious of diversity, and not only in Africa. In his view, excessive diversity has been a growth disaster in Africa. These high diversity levels are the result of colonial powers creating arbitrary state boundaries that cut through some groups and forced others to share the same state. Ethnic groups sharing a country will co-operate while they believe that the distribution of income and wealth among the groups is acceptable. However, ethnic inequality tends to induce the poorer group to demand redistribution, and the result is lack of co-operation that can escalate to open conflict, secession, and civil war.²⁵ Schiff acknowledges that forming larger political units creates economies of scale in the provision of public goods 'as long as most people have similar views on what constitutes a public good'. He continues thus:

However, if relations are dominated by loyalty to specific ethnic groups and mistrust between these groups, then forming (forcing?) a larger entity comprising several ethnic groups may generate public 'bads' and losses for everyone involved. ... John Stuart Mill believed that groups who had a sense of being a 'nation' should have a separate government. He states: 'Where the sentiment of nationality exists in any force, there is a *prima facie* case for uniting all members of the nationality under the same government, and a government apart.' And ... ethno-religious problems among ethnic groups are not limited to SSA [Sub-Saharan Africa]. They are prevalent in a number of republics of the former Soviet Union, ex-Yugoslavia, Lebanon, Malaysia, Sri Lanka, the UK and more.²⁶

Extending Schiff's analysis, one might add that moving populations is equivalent to moving borders; both throw ethnic groups together within states, and with potentially similar impacts on national cohesion, welfare, and economic decision-making. What the colonial powers did to Africa, Western élites are in the process of doing to their own countries with liberal immigration policies. Loss of public altruism in these wealthy societies is

likely to accelerate should their economies suffer significant reversals or if ethnic rivalry ignites for other reasons.

DIVERSITY AND INEQUALITY

Ethnic inequality is an important policy problem that is not considered by M&Mc, whose analysis focuses instead on overall economic growth. Yet ethnic inequality is glaring even in the world's richest economy of the United States. In that country, blacks, Latinos, and Amerindians have suffered long-term low economic status, and the current low levels of unemployment mask a rise in the number of 'working poor'; individuals who have been forced to take low-paying jobs as a result of the new (reduced) welfare policies, or after being retrenched as part of the 'downsizing' of corporations and exporting of jobs that have increased the productivity of the economy overall.²⁷ Hacker's²⁸ 1997 compilation of statistics on the distribution of wealth in the United States reveals growing inequality since the 1970s, coinciding with the rise in ethnic diversity after the liberal immigration law of 1965 took effect. Between 1975 and 1995 the median income for men in the United States fell by 6 per cent.²⁹ The share of aggregate household income rose for the best-off 20 per cent of the country, from 43.2 to 48.7 per cent, but fell for the other 80 per cent of households.³⁰ Compared with other Western countries, the United States has by far the greatest disparity between richest and poorest households.³¹ In the United States, the richest 20 per cent of people earn nine times the income of the poorest 20 per cent; in Japan it is four times; in Germany it is six times. Also, in Japan, the poorest 20 per cent are about 50 per cent better off than in America, despite the latter country having a higher average income. In early 1999, the average United States' corporate chief executive earned 326 times the income of the average factory worker, while in the 1960s, the multiple was a relatively modest 44.³² Contributing factors are the wide income differences found in America, its poor welfare system, and the poor quality of public goods such as primary and secondary education. Germany and Japan are much more successful than the United States in combining economic growth with equality.³³ Despite the sustained economic boom of the 1990s, the percentage of poor families in the United States did not decline,³⁴ largely due to low-skill immigration, and since 1970 the percentage of children under the age of 18 living in poverty increased from 15 to 21 per cent.³⁵ The elderly were the only exception to this trend. Economic research links rising inequality in America since 1980 to high rates of immigration from non-European developing economies, and to the strain this has placed on welfare provision.³⁶ Poverty among immigrants of working age has risen from 14.7 per cent in 1980 to 21.3 per cent in 1994, and 36 per cent among the less educated.³⁷ The problem is caused by high numbers of immigrants and declining demand for low-skilled workers; factors that drive down their wages. Low-skill native-born Americans

have also suffered from this growing diversity. Between 1979 and 1997, average hourly wages of high-school drop-outs has fallen by 26 per cent, after adjusting for inflation.³⁸ Borjas cites evidence indicating that large-scale immigration, the major engine of growing diversity in the United States, was responsible for about a third of the growth in inequality in that country in the mid-1990s, as native-born workers lost about \$133 billion per year in lowered wages.³⁹ The problem of ethnic stratification by class is worsening despite the United States' decade-long economic boom. It would seem misleading to assume that boosting economic growth will necessarily solve ethnic problems by blunting resource competition.

Most social theorists, including the authors of the United States Constitution, consider inequality to be a necessary feature of a free society, given variation in individuals' capacity to accumulate wealth. However, the same theorists consider large inequalities to be invidious. Entrenched inequality exacerbates class politics and reduces public trust, as illustrated by the internet site set up by American trade unions where workers can compare their salaries with those of their employers.⁴⁰ 'Welcome to Executive PayWatch – a working families' guide to monitoring and curtailing the excessive salaries, bonuses and perks in CEO compensation packages.' Inequality is most invidious when ethnic groups are economically stratified, as occurs in the United States and in many other societies. Westerners are familiar with the case of minorities being over-represented among the poor, but minorities can also dominate economically, as with ethnic Chinese in Malaysia and Indonesia and Hindus in Fiji, or politically, as with whites in Apartheid South Africa. These are all invidious forms of inequality that foster social conflict. In Western economies, growing ethnic diversity is arousing opposition to the redistributive welfare that helps keep inequality within tolerable limits by letting some of the new-found wealth trickle down to disadvantaged minorities.⁴¹ Growing inequality increases the risk of ethnic conflict, and conflict depresses economic growth. Are these not ingredients for a vicious downward spiral once diversity is great enough and should the economy meet with a severe setback?

THE COSTS OF GLOBALISM

M&Mc conclude that in considering policy implications it is necessary to choose between the dubious benefits of ethnic homogeneity (which they tag 'solidarity') and the clear benefits of economic growth. They consider ethnic solidarity so dubious in the way it reduces economic growth and promotes conflict that it is best treated as a punishable 'sin'. The aim should be to build larger and larger states that maximize market size and hence economic growth. Part of the formula is that ethnic mixing should be promoted to reduce the diversity that inevitably generates communal discord. In the past,

this approach was widely believed to be the best means for maximizing economic growth while maintaining cohesive societies, and it has had its successes in amalgamating closely related groups, such as European immigrants in the United States and Australia. However, the historical record of ethnic relations indicates that assimilation is far more difficult than imagined by exponents of the 'melting pot'.¹² 'Ethnic groups then, even after distinctive language, customs, and culture are lost, as they largely were in the second generation, and even more fully in the third generation, are continually recreated by new experiences in America. ... A man is connected to his group by ties of family and friendship. But he is also connected by ties of *interest*. The ethnic groups in New York are also *interest groups*.'¹³

M&Mc's policy analysis also suffers from over-emphasizing the cost of ethnic solidarity – inter-group conflict – to the exclusion of all benefits. Most of the data reported in this symposium indicate that ethnic solidarity also produces palpable goods. When a state is relatively homogeneous, its members enjoy substantially higher public altruism of various kinds, including more generous welfare, and resulting in reduced inequality. There would also seem to be real benefits in reduced crime and reduced risk of communal conflict in times of national stress, such as economic recession. In a 1998 study, Donohue and Levitt¹⁴ analysed own-race policing in 134 large United States cities from 1977 to 1993 and found that policing is more effective and fairer when officers are of the same ethnicity as suspects. When a local police force has more officers of the same race as the dominant race in a neighbourhood, property crime is reduced even though fewer arrests are made. The benefits of homogeneity are more extensive still.

Using one of the same indices of ethnic fractionalization as used by M&Mc, Mauro¹⁵ conducted a cross-national correlational study and found that ethnic diversity correlates -0.38 with institutional efficiency, -0.41 with political stability, -0.28 with bureaucratic efficiency, and 0.31 with corruption (all significant at the 1 per cent level). Similarly, E&L's cross-national study finds that relative homogeneity correlates with lower rates of corruption, greater rule of law, and more democracy. Alesina and Spolaore¹⁶ develop an econometric model based on these and other findings in which rising democracy leads to secession of ethnic minorities. The connection between democracy and secession implies universal preferences to live in a society in which one's own ethnic is in the majority and for one's ethnic to be self-governing, as suggested by J.S. Mill, quoted above.¹⁷ Alesina and Spolaore's empirical finding is that homogeneous countries are generally better run and more prosperous.¹⁸ It is possible that homogeneity has a positive and significant effect on productivity growth.¹⁹ A relevant case in point is the United States and Germany before the former's surge in productivity due to investment in information technology. During the 1990s, Germany's productivity growth was more than twice that of the United

States, while maintaining greater equality and social services.⁵⁰ There are of course other factors involved. US productivity accelerated in the second half of the 1990s as large investment in information technology paid off, taking it ahead of Japan and Europe as a whole. Some European countries are now investing heavily in information technology.⁵¹

Many of the benefits of large market size can be obtained through the development of free-trade zones, such as the European Common Market and the North American Free Trade Agreement, with explicit or *de facto* limits on migration. As trade barriers come down, the economic rationale for maintaining large domestic markets weakens and aspirations for ethnic self-determination become more feasible. European economic integration has coincided with a surge in regional separatist movements in Britain, Belgium, Spain and Italy.⁵² Many small countries, from Singapore to Sweden, treat the world as their market, and the notion that each country should strive to maximize its population to build a viable home market is not only outmoded by contemporary economic practice, but by enlightened standards of ecological common sense. For practical purposes the notion is absurd and irresponsible. In contrast, ethnic federalisms in the pattern of Switzerland and European Union models, as advocated by Eibl-Eibesfeldt in this volume, allow the joint benefits of a larger home market and relative ethnic homogeneity, the only limit on economic growth being effective constraints on the free movement of human resources. Economists such as Dr  ze⁵³ and Alesina and Spolaore⁵⁴ support the idea of ethnic independence within the framework of economically integrated areas such as the European Union and the North American Free Trade Agreement. Alesina and Spolaore's model assumes minimal population movement, a necessary ingredient of any arrangement designed to protect aspirations to majority status and control of historical lands. As one Indian commentator has argued: 'The fears of minority groups cannot be easily dismissed; yet neither can those of multi-ethnic states. ... Hence the need to devise forms of association that supplement nationalism with self interest. The solution lies ... in fostering forms of economic association that satisfy nationalistic expectations without weakening the existing political framework.'⁵⁵ The combination of ethnic autonomy and economic integration - what Eibl-Eibesfeldt calls international multiculturalism - would allow relatively small regions such as Quebec and the Basque land to enjoy ethnic autonomy, minimizing the dysfunctions of diversity while benefiting from membership in large economic units. Indeed, Alesina and Spolaore's model predicts that agitation for secession will increase with growing economic integration. Thus, the size of nations is expected to fall as spreading democracy gives people more choice and as that choice becomes more feasible due to economic integration. However, redistributive welfare across regions might not be one of those benefits, given the resistance to cross-ethnic redistribution found by several analysts including Sanderson, Vanhanen, Butovskaya *et al.*, and

Schubert and Tweed in this volume. Alesina and Spolaore indicate the same effect.

The benefits of homogeneity are likely to be substantially reduced by the present style of globalism due to the latter's insensitivity to ethnic aspirations. This becomes evident if one extends M&Mc's 'bigger is better' policy to its logical conclusion, according to which the present international system is economically submaximal. Since, within this view, ethnic divisions anywhere in the world reduce overall economic efficiency and average income, the best strategy is to dissolve all such barriers in a fully integrated world system in which the movement of capital, material and labour is governed purely by the criterion of profit maximization, with other values, such as ethnic continuity and ecological sustainability, allocated no weight at all. This amounts to praise for the 'grey uniformity' referred to by Eibl-Eibesfeldt in this volume; the blurring and ultimate erasing of those international cultural and racial disjuncts that so enrich the human family. It is no defence against this *reductio ad nauseam* to counter that such a global economy would, like the present United States, allow and promote full rights of cultural expression. The likelihood is that mixing of populations will occur on a large scale unless nations retain the right to police their borders, especially given the steep economic gradients that abound in the world; and during the centuries required to erase or mangle the world's rich diversity of cultures, the result would be the endemic ethnic discord and inequality that characterize the United States at the end of the twentieth century.

Even if 'bigger is better' by strictly monetary and consumerist economic criteria, '[i]n small relatively homogeneous countries, public choices are closer to the preferences of the average individual than in larger, more heterogeneous countries',⁵⁶ or as Barro⁵⁷ succinctly echoes, 'small is beautiful'.⁵⁸ The general policy recommendation that institutions should be more human in scale and structure is not new. Schumacher⁵⁹ coined the notion about the beauty of smallness in 1973, and the idea has been propounded from the modern evolutionary perspective.⁶⁰

The evidence reviewed in this and other chapters of the present volume strongly indicates that ethnic diversity adds a further dimension of strangeness to social relations, contributing to the inhuman scale of modern society. Reduced public altruism is but one aspect of a general loss of involvement in the community; indeed, of a loss of communal sense. One more piece of evidence concerns the public's experience in the large medical institutions that manage health care. Like other large bureaucracies, the medical system is often perceived as autocratic and paternalistic. For example, some doctors will simply announce a course of treatment rather than consult with patients about available options. A recent study conducted by medical researchers at Johns Hopkins University found that regardless of race, patients said that they felt more involved in the decision-making process when their doctors shared their race or ethnicity.⁶¹ The feeling of

participation added to patients' satisfaction with medical care. The study was extensive, involving 1,800 adult patients and 64 physicians in the Washington DC area. Thirty-six of the physicians were white, 16 black, 10 Asian, and 2 Hispanic. The finding applied to patients from all these groups.

Ethnic homogeneity is an intrinsic good. Fishman⁶² eloquently defends ethnicity as a cohesive force that confers a sense of belonging and augments individual identity, all the more important in a secularizing age. Western intellectuals have traditionally debunked ethnicity, ascribed it to disruptive and disadvantaged peoples, and avoided recognizing it in themselves or in their own 'unmarked' societies. However: 'The need to belong deeply and intimately to an ethnic aggregate is a powerful motivation', and as a result, 'ethnicity has motivated movements in all possible directions of the political compass'.⁶³ Some of those directions have been destructive, some constructive, but the need to belong remains. Fishman notes:

Ethnicity has always been experienced as a kinship phenomenon, a continuity within the self and within those who share an intergenerational link to common ancestors. Ethnicity is partly experienced as being 'bone of their bone, flesh of their flesh, and blood of their blood.' ... It is crucial that we recognize ethnicity as a tangible, living reality that makes every human a link in an eternal bond from generation to generation — from past ancestors to those in the future. Ethnicity is experienced as a guarantor of eternity. The feeling of being related to others as closely as to brothers, sisters, parents, grandparents, sons and daughters is one of the most powerful motivations of humankind. That feeling simultaneously transcends death and promises eternal life, while tangibly demonstrating familial roots, and perpetuation of the lineage.⁶⁴

In secular, anonymous mass societies, shared ethnic identity is perhaps the only proven durable quality conferring on individuals this sense of familiarity and belonging. Ethnicity provides an intermediate level of bonding between the warmth of the nuclear family and the coldness of modern society as a whole (let alone a borderless world society). Shared descent confers emotional meaning on personal identity in a fast-changing, relativistic social universe. The quest to understand familial and group origins is universal, exemplified in the adoptee's curiosity about, and often longing for, biological parents. The search for one's roots and the reclaiming of tribal social virtues are perhaps part of the 'self-actualization' that people undertake after ascending the material stages of Maslow's hierarchy of needs. Econometricians are already widening their definition of utility to include subjective values such as happiness and contentment, finding that these are not only affected by inequality in material resources but by social and political factors such as degree of inclusion in community decision-making.⁶⁵ Building an egalitarian

national family has been a public good that some in the past have seen as worth paying for, such as Australia's founding fathers at the turn of the twentieth century. Alfred Deakin, the architect of federation at the end of the nineteenth century, believed that building a homogeneous nation was worth the economic costs of foregoing cheap non-European labour. '[T]hose sacrifices for the future of Australia are little, and are, indeed, nothing when compared with the compensating freedom from the trials, sufferings and losses that nearly wrecked the Great Republic of the West [the United States].'⁶⁶

Even if one discounts subjective values, there are objective social and economic benefits of living in a fairly homogeneous society. Apart from more generous welfare and accelerated economic growth based on smaller populations, there are such real benefits as reduced communal polarization, reduced group conflict, relative ease of consensus-building, and probably reduced inequality due to more generous welfare and less ethnic stratification. Homogeneity also increases the likelihood of ethnic continuity, both cultural and genetic.⁶⁷

Rummel's⁶⁸ 1997 study of pluralism and collective violence across 162 states from 1932 to 1982 finds that the degree of ethnic diversity within a society is related to the incidence of ethnic violence. Rummel concludes thus: 'We end up with two rather simple and ordinary measures - numbers of ethnic and religious groups.' 'The more ethnic groups in a state, the more likely it will have a high rate of guerrilla and revolutionary warfare. And the more religious groups in a society, the more intense the general violence. This is largely moderated by the size of a state. Thus, the larger and older (counting from 1932) a state in addition to the more religious groups, the more the general violence.' Rummel stresses that diversity is not as predictive of collective violence as lack of democracy. However, diversity alone accounts for 21 per cent of the variance. Using another statistical approach, Rummel found that diversity explained 27 per cent of the variation (fn. 9). As Rummel notes, 'To be able to explain one fifth of the variation among all states in such intense violence as guerrilla and civil wars from 1932 to 1982 is an accomplishment, and to do this with one variable - the number of ethnic groups - is even more important. And the factor analyses show clearly that this is a direct relationship, after the effects of the correlation of other plural indicators, and political, social-economic, and cultural indicators have been removed.'⁶⁹

To put it mildly, ethnic heterogeneity tends to degrade 'social capital', the trust and commitment that facilitate many kinds of co-operation.⁷⁰ Putnam⁷¹ argues that economic development is facilitated by social capital, and conducted a survey of 30,000 Americans across 40 communities that identified ethnic diversity as a major depressor of social networks, trust, and volunteering. A parallel argument with regard to labour mobility is presented by Schiff,⁷² a World Bank economist. He produced a formal model and

supporting data to argue that trust and altruism are public goods that tend to be undercut by high rates of labour mobility. Excessive mobility reduces the social capital of familiarity and leads to social isolation. This analysis qualifies the classic economic model that puts no limits on the utility of labour mobility. Such mobility is assumed to continue to increase efficiency of resource allocation, parallel to the assumption that bigger economies are always better. If Schiff is right, however, it can be counter-productive to combine ethnic groups to form ever-larger markets, even from a strict econometric perspective, so long as social capital is factored in. This economic dysfunction of diversity is compounded by losses to the social values of a sense of well-being and belonging. These values have a subjective side with robust behavioural consequences. Schiff thinks his analysis has special relevance to the United States, with its social fragmentation and correspondingly weak social support structures (including 'higher crime rate, weaker interpersonal relations, and more isolation'). Americans have gained material goods partly at the expense of squandering the social capital of ethnic unity. The issue is not whether material security should be foregone, but whether the country's social capital is in need of renovation, including measures to reduce the rate of ethnic change and attendant diversity.

To conclude, ethnic diversity within states is a force for inefficient economic growth. That inefficiency takes the form of slower growth for given resources, including population. The effect appears to be diminished for wealthy societies, but ethnic diversity presents potential hazards in the event of economic downturns. Apart from slowed growth, ethnic diversity tends to incur social costs of ethnic conflict, inequality, and reduced public altruism. Minimizing diversity within states (though not between them) would help achieve sustainable economic growth – growth that is efficient in achieving both material and social goals and that is ecologically sustainable by virtue of reducing the need for ever-larger populations.

NOTES

1. K. MacDonald, 'The Establishment and Maintenance of Socially Imposed Monogamy in Western Europe (with peer commentary)', *Politics and the Life Sciences*, 11, 1 (1995), pp. 3–16.
2. 'Power in Prospect for Norwegian Right', *Guardian* (London), 6 October 2000.
3. J.M.G. v. d. Dennen, *The Origin of War. The Evolution of a Male-Conditional Strategy* (Groningen: Origin, 1995); L. Keeley, *War Before Civilization: The Myth of the Peaceful Savage* (New York: Oxford University Press, 1996).
4. J.M.G. v. d. Dennen, 'On War: Concepts, Definitions, Research Data: A Short Literature Review and Bibliography', in UNESCO (ed.), *UNESCO Yearbook on Peace and Conflict Studies 1980* (Westport: Greenwood Press, 1981), pp. 128–89; M. Haas, *International Conflict* (New York: Bobbs-Merrill, 1971).
5. Saguaro Seminar 'Social Capital Community Benchmark Survey Executive Summary', Project report of the John F. Kennedy School of Government, Harvard

- University, Cambridge: <http://www.cfsv.org/communitysurvey/results.html>, March 2001), 15 pp.
6. S. Knack and P. Keefer, 'Does Social Capital Have an Economic Payoff? A Cross-Country Investigation', *Quarterly Journal of Economics*, 112, 4 (1997), pp. 1251–88; see p. 1282).
 7. W. Easterly and R. Levine, 'Africa's Growth Tragedy: Policies and Ethnic Divisions', *Quarterly Journal of Economics*, 112 (November 1997), pp. 1203–50.
 8. The two studies are comparable because they share one measure of diversity, the Soviet ETHNIC index. The studies also use different measures of diversity, but these yield similar results. The period studied is also the same, 1960–1990.
 9. W. Masters, personal communication, 15 March 1999.
 10. I use the average of the population increase needed to offset 10 per cent diversity at the mean income level (2.55 million).
 11. *Cambridge Factfinder 1993*.
 12. Personal correspondence, 15 March 1999.
 13. A.D. Smith, *The Ethnic Origins of Nations* (Oxford: Basil Blackwell, 1986).
 14. F. Salter, 'A Defense and an Extension of Pierre van den Berghe's Theory of Ethnic Nepotism', in P. James and D. Goetze (eds), *Evolutionary Theory and Ethnic Conflict*, Praeger Studies on Ethnic and National Identities (Westport: Praeger, 2001), pp. 39–70.
 15. It is relevant that the Communist Yugoslav government exacerbated ethnic bitterness by transferring revenue from the richer areas of Slovenia, Croatia and Serbia to poor, ethnically distinct areas, especially Kosovo, an increasingly ethnic-Albanian province during this period (see S. Ramet, *Nationalism and Federalism in Yugoslavia* [Bloomington: University of Indiana Press, 1992]). This example of ethnic difference stiffening resistance to redistribution supports the analyses offered in this volume by Butovskaya *et al.*, Sanderson, Schubert and Tweed, and Vanhanen, as well as the research cited in Salter's introductory chapter.
 16. R.D. Alba, *Ethnicity and Race in the USA* (New York: Routledge, Chapman & Hall, 1985); R.D. Alba, *Ethnic Identity: The Transformation of White America* (New Haven: Yale University Press, 1990); F.K. Salter, 'Sex Differences in Cross-Racial Mate Choice in the US: An Evolutionary Model', Paper presented at the 19th Annual Meeting of the European Sociobiological Society, Alfred University, New York, 23–26 July 1996; Salter, 'A Defense and an Extension of Ethnic Nepotism Theory'.
 17. Knack and Keefer, 'Does Social Capital Have an Economic Payoff?' p. 1282.
 18. As stated by W. Masters, personal communication, 16 March 1999.
 19. Diversity can increase in two ways: (1) by a minority reproducing faster than the majority; or (2) through immigration. In either case, according to M&Mc as well as E&L, added diversity will keep economic growth below the level it would have gained had the population increase been comprised of the same or similar ethnicity as the majority group.
 20. *Encyclopedia Britannica* 1996.
 21. G.J. Borjas, 'Immigration, the Issue-in-Waiting', *New York Times*, New York, 2 April 1999.
 22. Borjas, 'Immigration', continues: 'The fiscal consequences of our current levels of immigration will be severe [if the economy declines]. Without the political pressures of long unemployment lines and budget deficits, now is the time to consider whether the country would be better off with a different immigration policy....'
 23. Long-term heterogeneity entails a slow rate of assimilation. Ethnic groups that assimilate quickly can be introduced in much greater volume than slow-to-assimilate groups, since conflict is less likely to arise and if it does will resolve itself within a generation or two.

21. M. Schiff, 'Ethnic Divisions and Economic Reform in Sub-Sahara Africa', *Journal of African Economics*, 7, 3 (1998), pp. 348-62.
22. Schiff, 'Ethnic Divisions', pp. 350-1.
23. Schiff, 'Ethnic Divisions', p. 350.
24. *The Economist* 20 March 1999, pp. 53-4.
25. A. Hacker, *Money: Who has How Much and Why* (New York: Scribner, 1997).
26. *Ibid.*, p. 11.
27. *Ibid.*, p. 49.
28. *Ibid.*, p. 54.
29. *The Economist*, 30 January 1999, p. 57.
30. *The Economist*, 10 April 1999, pp. 67-9. Germany had faster growth in GDP per capita during the 1990s than the United States, dispelling the popular notion that America has traded equality for rapid growth. In the decade to 1999 Germany had more of both (*The Economist*, 10 April 1999, p. 67).
31. J. Dalaker and M. Naifeh, 'US Bureau of the Census, Current Population Reports, Series P60-201', in *Poverty in the United States: 1997* (Washington, DC: US Government Printing Office, 1998).
32. Hacker, *Money*, p. 63.
33. G.J. Borjas, 'The New Economics of Immigration: Affluent Americans Gain; Poor Americans Lose', *Atlantic Monthly*, November (1996), pp. 72-80.
34. *Business Week*, 7 June 1999, p. 14.
35. *Ibid.*
36. Borjas, 'The New Economics of Immigration'.
37. www.paywatch.org, reported in *The Economist*, 30 January 1999, p. 57.
38. T. Faist, 'Ethnicization and Racialization of Welfare-State Politics in Germany and the USA', *Ethnic and Racial Studies*, 18, 2 (1995), pp. 219-50; M. Gilens, '“Race Coding” and White Opposition to Welfare', *American Political Science Review*, 90, 3 (1996), pp. 593-604.
39. N. Glazer and D.P. Moynihan, *Beyond the Melting Pot* (Cambridge, MA: MIT Press, 1963); M. Novak, *Unmeltable Ethnics: Politics and Culture in American Life* (New Brunswick and London: Transaction, 1996/1971).
40. Glazer and Moynihan, *Beyond the Melting Pot*, pp. 16-17.
41. J.J.I. Donohue and S.D. Levitt, 'The Impact of Race on Policing, Arrest Patterns, and Crime', Working Paper No. 6781, National Bureau of Economic Research (10 January 1998).
42. P. Mauro, 'Corruption and Growth', *Quarterly Journal of Economics*, 110, 3 (1995), pp. 681-712, p. 693.
43. A. Alesina and E. Spolaore, 'On the Number and Size of Nations', *The Quarterly Journal of Economics*, 112 (November 1997), pp. 1027-56.
44. Mill is quoted in Schiff, 'Ethnic Divisions', p. 350.
45. M&Mc's analysis indicates that partition of multi-ethnic states can dramatically improve material living standards in addition to its many social benefits. This is shown by adapting W. Masters' semi-hypothetical example of Indonesia based on M&Mc's findings (personal communication from W. Masters, 8 April 1999).

Consider a hypothetical country of 100 million people with per capita income of \$2,400 and 50 per cent diversity due to the presence of two equal ethnic groups, under two conditions: (1) continued unity; (2) peaceful partition in which two homogeneous countries of equal size are formed. Below I estimate the effect on per capita income over 30 years for these two conditions.

1. With continued unity, the country maintains its per capita income of \$2,400.
2. With partition, each of the two new nations suffers a reduction in domestic market size from 100 to 50 million. According to M&Mc's finding, this

translates into a loss of \$345.60 per capita (1.0045 to the 30th power minus 1 = 0.144 times the initial level of income). However, there is also a gain from the fall in diversity from 50 to zero per cent. This gain is 1.008 to the 30th power minus 1 = 0.27. The income gain is \$648 per capita. Deducting the loss due to smaller population leaves a net gain of \$302.40 per person, or almost 13 per cent.

This indicates that when organized in a non-destructive manner, partition can produce smaller nation states that are nevertheless wealthier, in agreement with Alesina and Spolaore's cross-country survey that found higher economic and political standards in small homogeneous societies ('On the Number and Size of Nations').

49. D. Canning and M. Fay, 'The Effect of Transportation Networks on Economic Growth' (Discussion Paper, Columbia University, May 1993), as cited in Mauro, 'Corruption and Growth', pp. 692–3, fn. 18).
50. *The Economist*, 10 April 1999, p. 17.
51. Robert H. McGuckin and Bart van Ark, 'Productivity, Employment, and Income in the World's Economies', *The Conference Board* (<http://www.conference-board.org/>) 12 March 2001, Paper I.D. R-1287-01-RR.
52. Alesina and Spolaore, 'On the Number and Size of Nations'; for a summary of the previous paper, see A. Alesina and R. Wacziarg, 'Little Countries: Small But Perfectly Formed', *The Economist* (3 January 1998), pp. 63–5; P. Bolton and G. Roland, 'The Breakup of Nations: A Political Economy Analysis', *Quarterly Journal of Economics*, 112 (November 1997), pp. 1057–90.
53. J. Dr  ze, 'Regions of Europe: A Feasible Status, to be Discussed', *Economic Policy*, 17 (1993).
54. Alesina and Spolaore, 'On the Number and Size of Nations'.
55. S.K. Datta-Ray, 'In Multi-Ethnic Asia, Another View of the Balkan Crisis', *International Herald Tribune*, Frankfurt (10 March 1999), pp. 27–8.
56. Alesina and Spolaore, 'On the Number and Size of Nations'.
57. R.J. Barro, 'Small is Beautiful', *Wall Street Journal* (11 October 1991).
58. Alesina and Spolaore ('On the Number and Size of Nations') quote Barro ('Small is Beautiful') thus: 'We can think of a country's optimal size as emerging from a trade-off: A large country can spread the cost of public goods, such as defining a legal and monetary system and maintaining national security, over many taxpayers, but a large country is also likely to have a diverse population that is difficult for the central government to satisfy.'
59. E.H. Schumacher, *Small is Beautiful: Economics as if People Mattered* (London: Blond & Briggs, 1973).
60. J.G. Bernhard and K. Glantz, *Staying Human in the Organization: Our Biological Heritage and the Workplace* (Westport: Praeger, 1992); L. Tiger and R. Fox, *The Imperial Animal* (New York: Holt Rinehart & Winston, 1971).
61. A. Eisenberg, 'Female Doctors Rated Highly', *International Herald Tribune* (23 August 1999).
62. J. Fishman, 'Ethnicity as Being, Doing, and Knowing' (excerpted from 'Social Theory and Ethnography', in P. Sugar [ed.], *Ethnic Diversity and Conflict in Eastern Europe*, ABC-CLIO), in J. Hutchinson and A.D. Smith (eds), *Ethnicity* (Oxford and New York: Oxford University Press, 1996/1980), pp. 63–9.
63. *Ibid.*, p. 68.
64. *Ibid.*, p. 63.
65. *The Economist*, 17 April 1999, p. 102.
66. Quoted in R. Birrell, *A Nation of Our Own: Citizenship and Nation-Building in Federation Australia* (Melbourne: Longman Australia, 1995), p. 252.

67. F. Salter, *On Ethnic Interests* (Frankfurt-am-Main: Peter Lang, in press).
68. R.J. Rummel, 'Is Collective Violence Correlated With Social Pluralism?', *Journal of Peace Research*, 34, 3 (1997), pp. 163-76.
69. Rummel, *ibid.*, analysed a large data set on pluralism and collective violence assembled by the late anthropologist M.G. Smith. The percent of the population belonging to one ethnic group (coded as ETHNIC) was the best indicator of social diversity. This means that societies numerically dominated by one ethnic group are significantly less likely to experience internal violent conflict or to attack neighbouring states, holding other economic and political variables constant.

The analysis found a relationship between the number of ethnic groups ..., ethnic violence ..., and intense violence ..., independent of all the political, socio-economic, and cultural indicators. ... However, while the relationship between religious groups ..., riots ..., genocide, and overall violence ... also remained, even in the context of all the other indicators, it also included the length of time a state has been independent ... and its size. That is, the longer a country has been independent (counting from 1932), the larger, and the more distinct religious groups it has, the more likely it will have extensive violence, riots, and genocide.

Rummel's Paper is available on the internet at: <http://www2.hawaii.edu/~rummel/SMITH.ART.HTM>

70. Knack and Keefer, 'Does Social Capital Have an Economic Payoff?'
71. R.D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon & Schuster, 2000); Saguaro Seminar, 'Social Capital'.
72. M. Schiff, 'Social Capital, Labor Mobility, and Welfare: The Impact of Uniting States', *Rationality and Society*, 4, 2 (1992), pp. 157-75.

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Part III

Explanation and Prediction: Does Evolutionary Theory Help?

The Limits of Chimpanzee Charity: Strategies of Meat Sharing in Communities of Wild Apes

Linda F. Marchant

ABSTRACT

Two species of African apes (chimpanzee, *Pan troglodytes*; bonobo, *Pan paniscus*) are the closest living relations of *Homo sapiens*. They live in communities of constant membership that subdivide for travel and foraging into parties of ever-changing constituency (so-called 'fission-fusion' social structure). Each community is male-dominated, with a strict social hierarchy, but kinship ties are strongest between a mother and her offspring; mating is promiscuous but conceptions are not. Both species hunt mammals and, at least for *Pan troglodytes*, meat is their most prized resource.

Evolutionary theory predicts that individuals act with their self-interest paramount, but hunters give away precious meat, even to non-relatives. Such sharing networks vary across species, communities, and individuals. Chimpanzee males hunt monkeys, which they share with one another and with adult females, who pass on meat to their young. Bonobo females seize antelopes, and share meat with each other, but not with males. In one chimpanzee community, patterns of meat distribution changed when the most dominant (alpha) male was usurped by another. Such selective sharing appears to be strategic, in that it influences status and reproductive success. In this way, it resembles the indirect (but effective) pay-offs accrued by human hunters in foraging societies, e.g. Aché of Paraguay.

Apes may have ethnicity, in that communities and populations show cross-cultural variation, but its expression is limited by predominant xenophobia. Apes apparently lack welfare in any institutional or societal sense, but some goods, such as meat, are redistributed from 'haves' to 'have nots'. Such sharing may appear to be altruistic, but even if net benefit to recipient is established, it is harder to ascertain net cost to donor, e.g. giving away a surplus is no loss. It seems likely that all chimpanzee meat sharing is self-serving.

A Meat-Eating Vignette: Mahale Mountains National Park, Tanzania – Fall, 1996

Nsaba gripped the red colobus monkey carcass, as Kalunde used his hands and canines to detach an upper limb. He stashed the meat in his groin pocket. His hands back on the carcass, Kalunde took more meat. Gwekulo looked on, her eyes darting from Nsaba's face, to Kalunde's prize, and back to Nsaba. Her lips formed a whimper face as she reached toward the meat. She uttered soft pant-grunts, pressed her face in an open-mouth kiss to Nsaba, and then she too, tore, off a piece of meat. The three sat in a tight circle around the carcass as others watched from a distance, riveted by the sight of the dead monkey and its consumers.

Miya pressed her infant son against her belly as she approached the meat-eating cluster. She bobbed in submission, locking eyes with Nsaba as she uttered small squeaks of fear. Nsaba reached out a hand to reassure her, and she relaxed. He held the carcass while she removed the head, then she quickly retreated, taking the trophy with her to a nearby tree. Her son reached up to touch the head while his mother began to eat it. Close by, Pinky and her juvenile son, Primus, shared the ribs and skin that Pinky had secured from Nsaba a few minutes earlier.

An hour later, Nsaba, Kalunde, and Gwekulo were nowhere to be seen. The monkey, too, seemed to have vanished – in bits and pieces, the carcass had been shared out. The smell of blood and gut contents hung heavy in the air, and flies buzzed across the leaf litter beneath the tree where the monkey had been consumed. Others continued to scour the ground for some prize that had fallen – a bone fragment, a scrap of tissue, some intestine. Youngsters scrambled away from their mothers to climb the tree in order to lick blood-spattered leaves. The orphan, Chelsy, looked on as Totzy used her index finger to poke through the debris on the ground. Now it was the gleaners' turn to search for remnants of the kill.

INTRODUCTION

This paper will explore the behavioural evidence of meat sharing in two species of chimpanzee (*Pan troglodytes* and *Pan paniscus*) and its relevance, if any, in considering patterns of human behaviour that bear on the distribution of scarce and contested resources. Its approach will be to use descriptive ethology and ethnography within the framework of evolutionary theory.

First, a general outline of the natural history of the two species will be given. Next, a detailed, focused discussion will outline the evidence for meat sharing in chimpanzees and bonobos. This evidence will be evaluated in the light of sociobiological theory, especially informed by Trivers' interpretations of social relations.¹ Finally, the limits and utility of these data with reference to human concepts of ethnicity, welfare and altruism will be examined.

TWO SPECIES OF CHIMPANZEE

Pan troglodytes

More than four decades of long-term field observation have provided the scientific and lay communities with a wealth of knowledge about the chimpanzee (*Pan troglodytes*).² Research sites in Tanzania, Ivory Coast, and Guinea provide especially rich data on species' variability representative of cultural primatology, as described recently by McGrew.³

The shoreline of Lake Tanganyika, Tanzania, forms the western boundary to the two chimpanzee populations that have been observed the longest. In 1960, Jane Goodall began what was planned to be perhaps a year's study of wild chimpanzees in Gombe National Park, then a gazetted reserve of roughly 50 km². There, chimpanzee hunting was first seen.⁴ In 1965, Japanese primatologist, Toshisada Nishida, began a long-term project on the ecology and behaviour of chimpanzees in the Mahale Mountains, approximately 140 km south of Gombe, but a considerably larger park, being 1,613 km².⁵ Both parks are tropical, semi-evergreen, forest and woodland, and provide habitat for the eastern, or long-haired, chimpanzee (*Pan troglodytes schweinfurthii*).

In far west Africa, two long-term sites have provided more comparative data by concentrating on a second of the three subspecies of chimpanzee (*Pan troglodytes verus*).⁶ Since 1976, in Tai National Park, Ivory Coast, Swiss primatologist, Christophe Boesch, has documented the hunting skills of chimpanzees living in the tropical rain forest.⁷ Also in 1976, Japanese primatologist, Yukimaru Sugiyama, began research on a small community of chimpanzees at Bossou, Guinea, who are encircled by villages of local agricultural people.⁸ These four sites, and many others, present a convincing case for the transmission across generations of population-typical, learned patterns of behaviour, or culture.⁹

A skeletal summary of chimpanzee social structure and organization follows: chimpanzee communities (or unit-groups, as described by Japanese primatologists) consist of groups of philopatric males and dispersing females. Morin et al. showed that the resident males of Kasakela community at Gombe had a higher coefficient of relatedness than did the resident females.¹⁰ Adult males dominate females, and males compete for rank amongst themselves; they form political coalitions to increase rank and to gain access to scarce resources.¹¹

Aside from dependent young, an individual chimpanzee may be found on any given day ranging alone, in a same-sex group, mixed-sex group, a nursery group, or a community-wide group.¹² Over the course of that same day, he or she may join up with, or leave, the other individuals who are nearby. This pattern is described as fission-fusion social organization. The concept is also applied to contemporary hunter-gatherers.¹³

Chimpanzees know each other by sight and voice.¹⁴ That is to say, each is a member of a community. When females emigrate at adolescence, they do so when they are sexually receptive and are therefore welcomed by males in neighbouring communities. The males protect the immigrant females from potential aggression by resident females, with whom they must compete for food resources for themselves and their future offspring.¹⁵

Male chimpanzees monitor the boundaries of their communities and respond aggressively when they encounter chimpanzees from neighbouring communities.¹⁶ However, they respond differently if they encounter a single male chimpanzee, several males, or a sexually receptive female. In one well-documented case, the males of one community repeatedly targeted the adult males in a neighbouring community who were few in number.¹⁷ The result was the extermination of those males by lethal attacks, and incorporation of the females into the aggressors' community.¹⁸ Thus, the chimpanzee is characterized as being xenophobic and having a closed social network.¹⁹

The kinship bond between a mother and her offspring is essential for physical and psychological well-being. Even weaned juveniles struggle to survive being orphaned.²⁰ Ties between mothers and their young persist with adult sons and daughters, if daughters have not transferred to another community. Matrilineal kin regularly spend time in grooming sessions or other affiliative behavioural patterns.²¹ Perhaps the best known of these female lineages is that of the F Family at Gombe, where the matriarch, Flo, and her sons and daughters, provided much early data on mother-infant relations. In a fitting sequel, Flo's daughter, Fifi, is now the oldest female in the same (Kasakela) community. Fifi has borne nine children, eight of whom survive; one of her sons, Frodo, is the current alpha-male, and her eldest son, Freud, preceded his brother as alpha.²²

The mating system of the chimpanzee is often labelled as promiscuous, since females copulate with many males, and vice versa. This generalization fails to recognize several exceptions. Tutin showed that although female chimpanzees mated with many males, most of their conceptions occurred during consortships.²³ That is, a single male and female travelled exclusively together over the period of maximal tumescence of the female's sexual skin that coincides with ovulation. These conception data signalled a larger role for female choice in paternity than would have been predicted by looking simply at overall mating frequency. Tutin also noted that males employed several strategies to gain copulations. The most effective, but the most limited strategy, was to be the alpha-male, who monopolized any females from other males. The least effective was free-for-all opportunistic mating, a strategy favoured by adolescent, elderly, and low-ranking males. Since 1995, researchers have studied chimpanzees (*Pan troglodytes schweinfurthii*) at Ngogo, in the Kibale National Park, Uganda. This community is unusually large, with more than 140 individuals including 24 adult males, and approximately 47 adult females. Given the demographic dimensions of this community, and

the well-known complexity of male chimpanzee social relations, it appears that males form coalitions to mate-guard. Thus, males may co-operate to aid each other in access to oestrous females.²¹

Pan paniscus

In contrast to the chimpanzee, in nature our knowledge of the bonobo, or pygmy chimpanzee,²⁵ is more limited, as is the species' geographic distribution. Bonobos are found only in the Democratic Republic of Congo, south of the Congo river.²⁶ The two major behavioural field studies began in 1974 with Noel and Alison Badrian working at the site of Lomako.²⁷ Research at Lomako has continued, with periodic interruptions due to political instability.²⁸ The second long-term research site, Wamba, was established by Takayoshi Kano.²⁹ The two sites differ in that researchers at Lomako chose not to provision the apes;³⁰ at Wamba, bonobos were routinely fed sugar-cane at artificial feeding grounds while observers watched the apes from blinds.

Comparisons of the two *Pan* species yield interesting similarities and differences.³¹ Like the chimpanzee, bonobo social organization is fission-fusion, with male philopatry and female dispersal.

However, bonobos have a female-based social system despite their lack of kinship, and males are *not* male-bonded, as co-operative, or as affiliative as their chimpanzee counterparts. Although males usually outrank females in dyadic interaction, males cannot dominate females when females form coalitions, and much debate centres on the extent of female dominance beyond feeding contexts.³² Indeed, females who have a duiker carcass do not accede to male begging or to male pressure to share, or to give up the carcass.³³

Inter-group encounters also differ from those of *P. troglodytes*; bonobo communities are reported to associate peacefully sometimes.³⁴ Like chimpanzees, matrilineal kin ties are also strong, especially so between mothers and sons.³⁵

The function and variability of bonobo sexuality is perhaps more widely described and interpreted than any other aspect of bonobo behaviour.³⁶ Genito-genital (GG) rubbing in female-female and female-male interactions is conspicuous, as is female copulation during much of a female's interbirth interval.³⁷

MEAT SHARING IN *PAN*

Goodall's book, *In the Shadow of Mau*, provides the first popular account of chimpanzees eating and sharing meat:

There was a female and a youngster and they were both reaching out toward the male, their hands actually touching his mouth. Presently the female picked up a piece of the pink thing and put it to her mouth: it was at that moment that I realized the chimps were eating meat ... For three hours I watched the chimps feeding. David occasionally let the female bite pieces from the carcass and once he actually detached a small piece of flesh and placed it in her outstretched hand.³⁸

Here we witness an oft-repeated scene, one that aptly demonstrates the social dynamics and nature of meat eating and sharing for the chimpanzee. Since Goodall's initial report, similar patterns have been described at most other long-term research sites.³⁹ The components of chimpanzee hunting have been detailed at Tai and at Gombe. Primatological interpretations of male co-operation at Tai versus individualistic strategies at Gombe are much debated.⁴⁰ This focus on hunting has led to a renewed interest in using chimpanzees in referential models of the dietary patterns of ancient hominids.⁴¹

Some generalizations emerge from comparisons of hunting by *Pan troglodytes* at Mahale, Gombe, and Tai.⁴² The major prey species is the red colobus monkey (*Procolobus badius*), accounting for more than 80 per cent of kills at Gombe and Mahale.⁴³ The probability of capturing a red colobus monkey increases with the number of hunters; at Gombe, if 10 or more individuals take part in a hunt, then it is near 100 per cent certain that a kill will be made.⁴⁴ Hunting is mostly a male activity but females *do* hunt and, depending on the field site, account for 18-29 per cent of the total kills.⁴⁵ Given that adult males sometimes steal or pirate fresh carcasses, these figures may be an underestimate of female hunting; but, once a carcass is in a male's possession, he controls access to it. In 24 such episodes at Mahale, 10 carcasses were taken by the alpha male.⁴⁶ When multiple kills occur, this may draw community members together for hours - seven individuals were killed and consumed over an afternoon at Gombe.⁴⁷ Hunting is seasonal, and given the ecological parameters of the field site, one can predict a marked increase in monkey predation during certain months of the year.⁴⁸

Site comparisons also reveal contrasts, including differences in the age class of the monkeys that are targeted. At Tai, more adults are taken, while at Gombe and Mahale, immatures (neonates, infants, and juveniles) are preferred. At Gombe, the idiosyncratic preferences of one successful hunter, Frodo, meant that immatures accounted for more than 75 per cent of red colobus kills.⁴⁹

A comparable understanding of bonobo hunting patterns remains to be seen. This is not surprising, given the still low level of habituation achieved at both Wamba and Lomako, the use of provisioning at Wamba, and the frequent interruption of research at both field sites by political instability. It seems that bonobos ignore monkeys as prey; instead, monkeys serve as play



Figure 9.1: Alpha Male (right) and Beta Male Chimpanzees with Meat of Red Colobus Monkey at Mahale Mountains National Park, Tanzania. (Photo by T. Nishida)

objects for bonobos at one site, Lilungu.⁵⁰ Other differences have emerged: first, the preferred prey species for bonobos are small forest antelopes, *Cephalophus* spp., and second, the hunters, possessors, and distributors of duiker meat are females.⁵¹

Although a direct comparison of meat sharing by chimpanzees and bonobos is hampered by the lack of long-term, detailed data for bonobos, one can attempt a qualitative description of the two species' patterns of sharing. Mahale will serve as the exemplar for *Pan troglodytes*, with Lomako representing *Pan paniscus*.

Knowledge of the political relations of male chimpanzees and of the associated strategies of an alpha male to secure and to maintain his position comes from the long-term data of Nishida and his colleagues at Mahale Mountains National Park, Tanzania.⁵² The control of the carcass and the strategic sharing of meat in order to reinforce male coalition partners, service kinship relations, or provision sexual partners and their offspring is evidenced in 'rules for sharing'.⁵³ These rules emerged from an analysis of data from nine of the nearly 15 years of alpha status by a male named Ntologi. His successor, Nsaba, provides a useful comparison of how leadership change and age difference modify these rules.

After a monkey or other prey is obtained, the individual who controls the carcass (either having made the capture or, using dominance, having usurped the carcass) may be the focus of a 'meat-eating cluster, ...the group of

chimpanzees that closely gathered around the meat possessor to take or to beg for part of the carcass. "Meat recipients" were defined as participants in such clusters who were permitted to take a portion of the meat directly from Ntologi.⁵¹ Nishida derived the following rules for sharing meat with males: (1) Don't share with young males who are rising in the dominance hierarchy. (2) Don't share with the beta male. (3) Share meat with non-threatening middle-ranking males. (4) Share meat with older but influential males.⁵² Ntologi also shared meat with five females. One was presumed to be his mother, two other females were as old as his mother; the other two females had been monopolized by Ntologi during their oestrus cycles and were seen as mothers of his current or future offspring.

In McGrew and Marchant's field season at Mahale in 1996, Ntologi's successor, Nsaba, 'broke' the second rule consistently, but in a manner that made political sense. Beta males are often the likely individual to overthrow an alpha. During Ntologi's tenure as alpha, the beta male was Kalunde, who from Ntologi's perspective was a young male rising in the dominance hierarchy, i.e. subject to rule number 1. Nishida noted that Kalunde absented himself from meat-eating episodes when Ntologi controlled the carcass and he was never seen to beg meat from Ntologi.

By 1996, during Nsaba's tenure as alpha, the beta male was still the ageing Kalunde; but Nsaba's major political threat was the prime-aged gamma male, Fanana. By 1996, Kalunde was Nsaba's chief coalition partner, and so he now fitted rule 4, while Fanana, the challenger, fitted rule number 1. During our observations, it was Fanana who did not linger when Nsaba controlled a carcass, nor did he ever beg meat from Nsaba. This coalition between Nsaba and Kalunde is also an apt demonstration of the flexibility and opportunistic nature of male chimpanzee coalitions.⁵⁶

Reports from Lomako in the 1990s by Hohmann and Fruth provided seven cases of predation on duikers and one episode of predation on an unidentified, squirrel-sized mammal.⁵⁷ An adult female was always the 'owner' of the meat. The participants were described by age-sex class, with no knowledge of relatedness, except for presumed mother-infant pairs. Sharing of meat by females was mostly done with other adult females and their offspring. Occasionally, males shared in the meat; once, the female owner let an adult female take meat directly from the carcass, while an adult male sometimes took small pieces directly but also begged for meat by extending his hand to the owner's mouth. One episode of sharing an adult duiker lasted for more than 3.5 hours, involved a change of carcass ownership to another adult female, and was accompanied by GG rubbing.⁵⁸ In this lengthy episode, '...three infants had free access to the prey and removed small pieces from the mouth/hand of their mothers or directly from the prey.'⁵⁹

Given the admittedly small number of cases described above, it is difficult to reach any firm generalizations about bonobo meat sharing, but the role of

adult females appears to be significantly greater than that of the chimpanzee female. It seems that when a chimpanzee female makes a kill, her infant has equivalent access to a carcass. This seems likely, since chimpanzee mothers share with their infants if they succeed in getting meat at a male-controlled meat cluster. However, no adult female chimpanzee could resist the theft of a kill from any adult male. Bonobo females are clearly not so constrained.

APES AS MODELS

To what extent does the behaviour of African apes enlighten our understanding of human action? Or, more precisely, does knowledge of the sharing of meat by chimpanzees provide insight into the human social processes of welfare, ethnicity, and altruism? A pessimist might dismiss the exercise on principle, arguing that human institutions are uniquely transcendent above the natural patterns of 'lower' species. An optimist might adopt a 'try-it-and-see' approach and push opportunistically to see how far apparent parallels might extend. In any event, careful, operational definitions are important, if analysis is to extend back and forth across the natural and social sciences.

Ethnicity is a biosocial variable in that it may refer to the geographical distribution of organisms or to the behaviour that derives from that distribution. The two species of chimpanzee are *allopatric*, that is, they do not overlap in nature, being separated by the physical barrier of the Congo river. Thus, if bonobos and chimpanzees meet, it is only when they are artificially transplanted by humans to zoos or laboratories. Differences in their behaviour are therefore unremarkable, as each species has adapted to different environments, in the broadest sense.

In contrast, chimpanzees and gorillas often live *sympatrically* in Africa, that is, they may occupy the same forests. Any differences between them cannot be due to environment, at least at the gross level. Instead, through the principle of competitive exclusion, they occupy different ecological niches. These reflect the long-term accommodation or compromise of the forces of natural selection that has evolved a situation of optimal balance between the competing species. Both types of ape eat fruit (and so compete), but larger-bodied gorillas also consume masses of foliage, while more agile chimpanzees hunt monkeys.

More apt for comparison with humans may be subspecific variation across chimpanzees. It is likely that the species was once distributed in a continuous cline across equatorial Africa from the Great Rift in the east to shores of the Atlantic in the far west. Recognizable differences exist if we sample populations in eastern, central, and western Africa, but unless there has been a break in gene flow caused by climatic or human alternation, the overall picture is one of gradation, with no readily demarcated boundaries.

(Gene flow in chimpanzees is limited by xenophobia at the group level, but individual females typically transfer to neighbouring groups at sexual maturity.) Eastern chimpanzees are smaller than the other subspecies, but that difference likely peters out somewhere in Congo, where the subspecies merges into its central African neighbour.⁶⁰

Thus, the real difference between populations of apes appears to be cultural, not organic, and this is more akin to the usual human meaning of the term *ethnic*. Far western chimpanzees in the forests of the Ivory Coast, Guinea, and Liberia use stone tools to crack nuts, but chimpanzees elsewhere do not, even when they have the nuts and stones available to them.⁶¹ The non-westerners lack knowledge, not opportunity. In this sense, Ivorian apes are ethnically different from Tanzanian ones, both geographically and behaviourally. If we house them together artificially in a zoo, and give them meat, they must accommodate to one another, as meat-eating customs differ between Tai and Gombe. Thus, ethnicity is not limited to human beings.

If *welfare* is defined as the institutional redistribution of resources, leading to a more balanced overall consumption, thus reducing the differences between the 'haves' and 'have-nots', then comparison with apes requires more definitional clarification. The key may be what constitutes an institution; a problem that may also apply to non-state societies of *Homo sapiens*. If a chimpanzee gives meat to an offspring, this seems little different from the same act done by a human hunter. Neither need be labelled institutional, unless we choose to call such nepotism so. (Some might invoke here the institution of family as uniquely human, but the range of kinship structures shown by humans is mirrored by that of, for example, marmoset and tamarin monkeys.)⁶²

When chimpanzee meat sharing within a community is compared with that of foraging peoples, the differences seem to be one of degree and not of kind. That is, results of such band-level welfare seem to function equivalently, even if the mechanisms differ. However, most humans now live in state societies. Redistribution of resources is done indirectly, via agencies, from stranger to stranger. Through extreme societal division of labour, proxy bodies requisition by democratic consent, not the resources themselves, but tokens, which may be transformed many times. Such an anonymous system would mystify a traditional pygmy or bushman, much less an ape.

Although chimpanzees in captivity can be taught simple token economies that lead to spontaneous sharing, as well as hoarding,⁶³ it is hard to imagine how the habits of our nearest relations, even with regard to their most prized resources such as meat, can shed much light on state-level welfare. More useful might be anthropological study of foraging-level human societies undergoing rapid transformations imposed upon them by state-level societies. For example, to what extent do aboriginal peoples retain their egalitarian customs when the resource is predictable and sequesterable, such as food coupons instead of food?

The most difficult concept with which to compare humans and non-humans is *altruism*. Formulation of the phenomenon differs both across and within the social and natural sciences. Honeybees commit the ultimate act of self-sacrifice in their suicidal stinging in defence of the hive, but their behaviour is readily explained by kin selection. The genes that impel them to do so are shared overwhelmingly with their sister workers, all common offspring of the queen. At the other extreme, it seems logically impossible to prove altruism in even the most extreme acts of human charity, for we can infer self-serving motives, even if these are deluded or unconscious.

What can be done comparatively is to apply optimality arguments to the *consequences* of behaviour. In basic terms,⁶¹ if an individual acts at a net cost to itself, so that a recipient derives a net benefit, this is altruism. If that loss-gain outcome holds, having taken account of shared genes between the participants,⁶³ then the conclusion of altruism is strengthened. However, as soon as the dimension of time is added, the possibility of reciprocity muddies the water: If I give meat to you today, how to square that with your giving meat to me tomorrow, next week, next year, etc. Even if a proximate currency (such as energy, time, risk) can be agreed upon to stand in place of the ultimate currency of genetic fitness – a tall order – and even if all relevant costs and benefits can be computed, this says nothing about underlying processes. Such calculations ignore the motives or intentions of altruists, although most social science analyses make these issues central, e.g. studies of the development of ‘pro-social’ behaviour.

No aspect of meat sharing by chimpanzees or bonobos can be deemed unequivocally altruistic. When relatives of either species, usually mothers and offspring, share meat, kin selection or inclusive fitness explanations will suffice. When male chimpanzees share meat with oestrous females, the sex-for-food swap is most parsimoniously explained as co-operative mating effort both gain. If males share meat with mothers of young infants, this may be parental investment (but paternity testing is needed). When adult male chimpanzees share with unrelated males, or adult bonobo females share with unrelated females, the pay-offs may be the same: servicing of alliances, perhaps even from day to day, given the fickleness of some coalitions. The most likely candidates for altruistic meat sharing in apes are when older individuals share with unrelated orphans. The likely reason is reciprocity, sometimes with immediate return, e.g. I give you meat now, then you groom me when you have finished eating. (However, in any or all of these cases, the donation of meat may not be altruistic, because it may not incur a net cost. Giving away a surplus is no act of generosity, especially if holding on to it means being pestered.)

So what about meat sharing by foraging peoples? The received anthropological wisdom is that hunters in such egalitarian societies are altruists. Neither they nor their kin, consanguineal or affinal, receive greater amounts of meat, and the rule seems to be that all members of the group

receive an equal share, regardless of their status or participation. According to the textbooks, such a system persists even if some hunters consistently 'over-achieve' and others contribute little or nothing, ever.

Only one study of the Ache of Paraguay seems to have looked deeper.⁶⁶ In this tropical foraging society, good hunters benefit in indirect ways that translate into reproductive success. Such men have more illicit sexual relationships, that in a society with natural fertility, translate into more offspring fathered. Although their wives and children receive no more meat than others, their children show higher survivorship, suggesting favoured treatment within the group. Thus, what looks to be altruism in good hunters, exploited by other group members, may instead be a successful reproductive strategy.

Similar arguments may apply even to individual acts in modern societies or to state-level processes that appear to be altruistic. Even the most bountiful acts of benefaction may not be philanthropic, given the global visibility of benefaction. Consumers in state-level societies may respond with cynicism when, e.g. Ted Turner gives away one of his billions of dollars to the United Nations.

Chimpanzees sharing meat may not directly shed light on altruistic welfare across ethnic groups, but our ape cousins may show us where and why such impulses of generosity emerged in our ancestors.

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NOTES

1. R.L. Trivers, *Social Evolution* (Menlo Park: Benjamin/Cummings, 1985).
2. This African ape is sometimes referred to as the common chimpanzee, an adjective that speaks to the more wide-ranging geographic distribution of this species compared to its sister-species, the bonobo. However, the adjective does disservice to its endangered conservation status.
3. W.C. McGrew, 'Culture in Nonhuman Primates?', *Annual Review of Anthropology*, 27 (1998), pp. 301–28. See also W.C. McGrew, *Chimpanzee Material Culture: Implications for Human Evolution* (Cambridge: Cambridge University Press, 1992).
4. J.v.L. Goodall, 'The Behavior of Free-Living Chimpanzees in the Gombe Stream Reserve', *Animal Behaviour Monographs*, 1 (1968), pp. 161–311; J. Goodall, *The Chimpanzees of Gombe* (Cambridge: Harvard University Press, 1986).
5. T. Nishida (ed.), *The Chimpanzees of the Mahale Mountains* (Tokyo: University of Tokyo Press, 1990).

6. There are reports of a fourth subspecies (*Pan troglodytes vellerosus*) occupying a restricted range in Nigeria and Cameroon. See M.K. Gordon *et al.*, 'A New West African Chimpanzee Subspecies?', *Nature*, 388 (1997), p. 337.
7. C. Boesch, 'Chimpanzees Red Colobus Monkeys: A Predator-Prey System', *Animal Behaviour*, 47 (1994a), pp. 1135-48; C. Boesch 'Hunting Strategies of Gombe and Tai Chimpanzees', in R.W. Wrangham, W.C. McGrew, F.B.M. de Waal and P.G. Helme (eds), *Chimpanzee Cultures* (Cambridge: Harvard University Press, 1994b), pp. 77-91; C. Boesch, 'Social Grouping in Tai Chimpanzees', in W.C. McGrew, L.F. Marchant and T. Nishida (eds), *Great Ape Societies* (Cambridge: Cambridge University Press, 1996), pp. 101-13; C. Boesch and H. Boesch-Achermann, 'Dim Forest, Bright Chimps', *Natural History* (September 1991), pp. 50-6.
8. Y. Sugiyama, 'Observations on the Population Dynamics and Behavior of Wild Chimpanzees at Bossou, Guinea, in 1979-80', *Primates*, 22 (1981), pp. 435-44.
9. Although not the focus of this chapter, attribution of cultural capacity to either or both species of chimpanzee adds to the persuasiveness of the argument that chimpanzees may tell us something about human behaviour. As noted earlier, see McGrew, 'Culture in Nonhuman', pp. 301-28; and more relevant here, Wrangham *et al.* (eds), *Chimpanzee Cultures*. See also, McGrew *et al.* (eds), *Great Ape Societies*.
10. See P. Morin, J. Moore, R. Chakraborty, L. Jin, J. Goodall and D.S. Woodruff, 'Kin Selection, Social Structure, Gene Flow, and the Evolution of Chimpanzees', *Science*, 265 (1994), pp. 1193-201.
11. See F.B.M. de Waal, *Chimpanzee Politics* (New York: Harper and Row, 1982); then see T. Nishida, T. Hasegawa, H. Hayaki, Y. Takahata and S. Uehara, 'Meat-Sharing as a Coalition Strategy by an Alpha Male Chimpanzee?', in T. Nishida, W.C. McGrew, P. Marler, M. Pickford and F.B.M. de Waal, (eds), *Topics in Primatology*, Volume 1, *Human Origins* (Tokyo: University of Tokyo Press, 1992), pp. 159-74; T. Nishida and K. Hosaka, 'Coalition Strategies Among Adult Male Chimpanzees of the Mahale Mountains, Tanzania', in W.C. McGrew, L.F. Marchant and T. Nishida (eds), *Great Ape Societies*, pp. 114-34.
12. Chimnologists refer to these social groups as 'parties', but I depart from that convention here in order to avoid any frivolous misinterpretations.
13. R.B. Lee and I. DeVore (eds), *Man the Hunter* (Chicago: Aldine, 1968).
14. A.C. Arcadi, 'Phrase Structure of Wild Chimpanzee Pant Hoots: Patterns of Production and Interpopulation Variability', *American Journal of Primatology*, 39 (1996), pp. 159-78; P. Marler and L. Hobbett, 'Individuality in Long-range Vocalization of Wild Chimpanzees', *Zeitschrift für Tierpsychologie*, 38 (1975), pp. 97-109.
15. A. Pusey, J. Williams and J. Goodall, 'The Influence of Dominance Rank on the Reproductive Success of Female Chimpanzees', *Science*, 277 (1997), pp. 828-31.
16. See Goodall, *The Chimpanzees*.
17. *Ibid.*
18. J. Manson and R. Wrangham, 'Intergroup Aggression in Chimpanzees and Humans', *Current Anthropology*, 32 (1991), pp. 369-90.
19. See R.W. Wrangham, 'The Significance of African Apes for Reconstructing Human Evolution', in W.G. Kinzey (ed.), *The Evolution of Human Behavior: Primate Models* (Albany: State University of New York Press, 1987), pp. 28-47.
20. J. Goodall, *In the Shadow of Man* (London: Collins, 1971), and J. Goodall, *Through a Window* (Boston: Houghton Mifflin, 1990), give case histories of failed and successful attempts by other chimpanzees to care for orphans. Often, but not always, this caretaker is an older sibling.
21. See Goodall, *The Chimpanzees*.
22. See Pusey *et al.*, 'Influence', pp. 828-31.

23. See C.E.G. Tutin, 'Mating Patterns and Reproductive Strategies in a Community of Wild Chimpanzees (*Pan troglodytes schweinfurthii*)', *Behavioral Ecology & Sociobiology*, 6 (1979), pp. 29–38.
24. See D. Watts, 'Coalitionary Mate-Guarding by Male Chimpanzees at Ngogo, Kibale National Park, Uganda', *Behavioral Ecology and Sociobiology*, 44 (1998), pp. 43–55.
25. Although 'pygmy chimpanzee' is used by some researchers for *Pan paniscus*, like 'common chimpanzee' it too may mislead by suggesting that this ape is a dwarf form of its sister species, *P. troglodytes*. Interestingly, given the subspecific variation within *P. troglodytes*, some populations appear to overlap in body weight with the bonobo. A further complication arises from the lack of reliable body weight data for wild bonobos.
26. J.R. Napier and P.H. Napier, *The Natural History of the Primates* (Cambridge: MIT Press, 1985).
27. See N. Badrian and A. Badrian, 'Pygmy Chimpanzees', *Oryx*, 13 (1977), pp. 463–8.
28. See: R.L. Susman (ed.), *The Pygmy Chimpanzee* (New York: Plenum Press, 1984); F.J. White, 'Pan paniscus 1973 to 1996: Twenty-three Years of Field Research', *Evolutionary Anthropology*, 5 (1996a), pp. 11–17; G. Hohmann and B. Fruth, 'Structure and Use of Distance Calls in Wild Bonobos (*Pan paniscus*)', *International Journal of Primatology*, 15 (1994), pp. 767–82; B. Fruth, and G. Hohmann, 'Comparative Analyses of Nest-Building Behavior in Bonobos and Chimpanzees', in Wrangham *et al.*, *Chimpanzee Cultures*, pp. 109–28; B. Fruth and G. Hohmann, 'Nest Building Behavior in the Great Apes: The Great Leap Forward?', in W.C. McGrew, L.F. Marchant and T. Nishida (eds), *Great Ape Societies* (Cambridge: Cambridge University Press, 1996), pp. 225–40.
29. See T. Kano, 'Social Behavior of Wild Pygmy Chimpanzees (*Pan paniscus*) of Wamba: A Preliminary Report', *Journal of Human Evolution*, 9 (1980), pp. 243–60; and T. Kano, *The Last Ape: Pygmy Chimpanzee Behavior and Ecology* (Stanford: Stanford University Press, 1992).
30. Provisioning of desirable food, e.g., bananas, sugar cane, salt blocks, to achieve habituation of wild subjects has been used to increase visual access and contact time during early phases of several field studies of apes, e.g. see Goodall, *Shadow*, and T. Nishida, *The Chimpanzees*.
31. See C.B. Stanford, 'The Social Behavior of Chimpanzees and Bonobos', *Current Anthropology*, 39 (1998), pp. 399–420, for an extended discussion of species' comparisons, with notable contrasts between captive and wild data for both species of *Pan*.
32. See White, 'Pan paniscus', pp. 11–17.
33. F.J. White, 'Comparative Socio-Ecology of Pan paniscus', in McGrew *et al.* (eds), *Great Ape Societies*, pp. 29–41; G. Hohmann and B. Fruth, 'Field Observations on Meat Sharing Among Bonobos (*Pan paniscus*)', *Folia Primatologica*, 60 (1993), pp. 225–9.
34. G. Idani, 'Relations Between Unit-groups of Bonobos at Wamba, Zaire: Encounters and Temporary Fusions', *African Study Monographs*, 11 (1990), pp. 153–86; G. Idani, 'Social Relations Between Immigrant and Resident Bonobo (*Pan paniscus*) Females at Wamba', *Folia Primatologica*, 63(1991), pp. 83–95.
35. T. Kano, 'Rank and Copulation of Bonobos in Wamba', in McGrew *et al.* (eds), *Great Ape Societies*, pp. 135–45.
36. For example, see F.B.M. de Waal, 'Tension Regulation and Nonreproductive Functions of Sex in Captive Bonobos (*Pan paniscus*)', *National Geographic Research*, 3 (1987), pp. 318–35.

37. Y. Takahata, H. Ihobe and G. Idani, 'Comparing Copulations of Chimpanzees and Bonobos: Do Females Exhibit Proceptivity or Receptivity?', in McGrew *et al.* (eds), *Great Ape Societies*, pp. 146–55.
38. J. Goodall, *Shadow*, p. 34.
39. See T. Nishida, S. Uehara and R. Nyundo, 'Predatory Behavior among Wild Chimpanzees of the Mahali Mountains', *Primates*, 20 (1979), pp. 1–20; S. Uehara, T. Nishida, M. Hamai, T. Hasegawa, H. Hayaki, M. Huffman, K. Kawanaka, S. Kobayashi, J.C. Mitani, Y. Takahata, H. Takasaki and T. Tsukahara, 'Characteristics of Predation by the Chimpanzees in the Mahale Mountains National Park, Tanzania', in T. Nishida *et al.* (eds), *Topics in Primatology*, Volume 1, pp. 143–58; C.B. Stanford, J. Wallis, H. Matama and J. Goodall, 'Patterns of Predation by Chimpanzees on Red Colobus Monkeys in Gombe National Park, 1982–1991', *American Journal of Physical Anthropology*, 94 (1994a), pp. 213–28; Boesch, 'Chimpanzees–Red', p. 1135–48; S. Uehara, 'Predation on Mammals by the Chimpanzee (*Pan troglodytes*)', *Primates*, 38 (1997), pp. 193–214. However, W. C. McGrew, C.E.G. Tutin and P.J. Baldwin, 'New Data on Meat-Eating by Wild Chimpanzees', *Current Anthropology*, 20 (1979), pp. 238–9, report Mt Assirik, Senegal chimpanzee predation on nocturnal prosimians. The chimpanzees 'collect' the prosimians while the latter sleep in their day nests.
40. See Boesch, 'Hunting Strategies', pp. 77–91; C. Stanford, J. Wallis, E. Mpongo and J. Goodall, 'Hunting Decisions in Wild Chimpanzees', *Behaviour*, 131 (1994b), pp. 1–18.
41. C. Stanford, 'Chimpanzee Hunting Behavior and Human Evolution', *American Scientist*, 83 (1995), pp. 256–61; C. Stanford, 'The Hunting Ecology of Wild Chimpanzees: Implications for the Evolutionary Ecology of Pliocene Hominids', *American Anthropologist*, 98 (1996), pp. 1–18. Interestingly, this reassertion of the role of hunting in human origins has met with resistance by palaeo-archaeologists, who have championed scavenging as a more likely dietary strategy; e.g. R.J. Blumenshine and J.A. Cavallo, 'Scavenging and Human Evolution', *Scientific American*, October (1992), pp. 90–6. Another related issue is the significance of habitat differences that extant subspecies of *Pan troglodytes* inhabit and the associated selection pressures that may help us model early human adaptations. The most extreme comparison is of deep tropical rain forest (e.g. Tai) versus arid, savannah/open woodland habitat (e.g. Mt Assirik, Senegal), with chimpanzees living in the latter referred to as savanna dwellers. See W.C. McGrew, P.J. Baldwin and C.E.G. Tutin, 'Chimpanzees in a Hot, Dry, and Open Habitat: Mt Assirik, Senegal, West Africa', *Journal of Human Evolution*, 10 (1981), pp. 227–44; J. Moore, '"Savanna" Chimpanzees', in Nishida *et al.* (eds), *Topics in Primatology. Volume 1*, pp. 99–118; J. Moore, 'Savanna Chimpanzees, Referential Models and the Last Common Ancestor', in McGrew *et al.* (eds), *Great Ape Societies*, pp. 275–92; A. Zihlman, 'Reconstructions Reconsidered: Chimpanzee Models and Human Evolution', in W.C. McGrew, L.F. Marchant and T. Nishida (eds), *Great Ape Societies* (Cambridge: Cambridge University Press, 1996), pp. 293–304.
42. See S. Uehara, 'Predation', pp. 193–214.
43. Despite their preference for red colobus monkeys, chimpanzees do eat other mammalian species—at least 16 at Mahale, eight at Gombe, and six at Tai (S. Uehara, 'Predation', pp. 193–214). This 80 per cent figure reflects Uehara's recent three-site comparison of predation from the 1980s until the mid-1990s. Earlier reports indicated that prey selectivity was more varied, with red colobus representing a lower proportion of prey: c.f. Y. Takahata, T. Hasegawa and T. Nishida, 'Chimpanzee Predation in the Mahale Mountains from August 1979 to May 1982',

- International Journal of Primatology*, 5 (1984), pp. 213–33; G. Teleki, *The Predatory Behavior of Wild Chimpanzees* (Lewisburg: Bucknell University Press, 1973).
44. See Stanford *et al.*, 'Patterns of Predation', pp. 213–28.
 45. See Uehara, 'Predation', pp. 193–214; and S. Uehara, 'Sex and Group Differences in Feeding on Animals by Wild Chimpanzees in the Mahale Mountains National Park, Tanzania', *Primates*, 27 (1986), pp. 1–13. Given that colobus hunts may involve dangerous encounters with defending adult male colobus and risky pursuits of prey through the canopy, female participation in hunts can be problematic if the female is encumbered by dependent offspring. Often the most active female hunters are also sterile, e.g. Gigi at Gombe (Goodall, *Through a Window*).
 46. See Nishida *et al.*, 'Meat Sharing', pp. 159–74.
 47. See Stanford, 'Chimpanzee Hunting', p. 256–61.
 48. Takahata *et al.*, 'Chimpanzee Predation', pp. 213–33; Stanford, 'Chimpanzee Hunting', pp. 256–61; Boesch, 'Social Grouping', pp. 101–13.
 49. See Uehara, 'Predation', pp. 193–214; Stanford, 'Chimpanzee Hunting', pp. 256–61.
 50. J. Sabater Pi, M. Bermejo, G. Ilera and J. Vea, 'Behavior of Bonobos (*Pan paniscus*) Following Their Capture of Monkeys in Zaïre', *International Journal of Primatology*, 14 (1993), pp. 797–804.
 51. B. Fruth, 'Comment on "The Social Behavior of Chimpanzees and Bonobos"' by C. Stanford, *Current Anthropology*, 39 (1998), pp. 408–9.
 52. T. Nishida, 'Alpha Status and Agonistic Alliance in Wild Chimpanzees (*Pan troglodytes schweinfurthii*)', *Primates*, 24 (1983), pp. 318–36; Nishida *et al.*, 'Meat-Sharing', pp. 159–74; Nishida and Hosaka, 'Coalition Strategies', p. 114–34.
 53. Nishida *et al.*, 'Meat-Sharing', pp. 159–74.
 54. *Ibid.*, p. 160.
 55. *Ibid.*, pp. 168–9.
 56. De Waal's (*Chimpanzee Politics*) careful analysis of chimpanzee male politics in the captive colony at Arnhem, in The Netherlands, provides convincing parallels to male chimpanzees in nature, including alliances formed between older males and a young alpha male, the older males needing his support to retain their position. See de Waal, *Chimpanzee Politics*, and F.B.M. de Waal, 'Conflict as Negotiation', in McGrew *et al.* (eds), *Great Ape Societies*, pp. 159–72.
 57. See Hohmann and Fruth, 'Field Observations', pp. 225–9; and Fruth, 'comment', pp. 408–9.
 58. See Hohmann and Fruth, 'Field Observations', pp. 225–9.
 59. *Ibid.*, p. 228.
 60. None of the above refers to hybridization, when members of different species mate and produce offspring, usually infertile. All chimpanzees from anywhere in the species' range appear to be able to breed successfully, just as in humans.
 61. C. Boesch, P. Marchesi, N. Marchesi and B. Fruth, 'Is Nut Cracking in Wild Chimpanzees a Cultural Behaviour?', *Journal of Human Evolution*, 26 (1994), pp. 325–38; W.C. McGrew, R.M. Ham, L.J.T. White, C.E.G. Tutin and M. Fernandez, 'Why Don't Chimpanzees in Gabon Crack Nuts?', *International Journal of Primatology*, 18 (1997), pp. 353–74.
 62. See P. Garber, 'One for All and Breeding for One: Cooperation and Competition as a Tamarin Reproductive Strategy', *Evolutionary Anthropology*, 5 (1997), pp. 187–99.
 63. H.W. Nissen and M.P. Crawford, 'A Preliminary Study of Food-sharing Behavior in Young Chimpanzees', *Journal of Comparative Psychology*, 22 (1936), pp. 383–419.
 64. See Trivers, *Social Evolution*.
 65. W.D. Hamilton, 'The Genetical Evolution of Social Behavior', *Journal of Theoretical Biology*, 7 (1964), pp. 1–16.

66. H. Kaplan and K. Hill, 'Hunting Ability and Reproductive Success among Male Ache Foragers: Preliminary Results', *Current Anthropology*, 26 (1985), pp. 131-3.

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Selfish Co-operation, Loyalty Structures, and Proto-Ethnocentrism in Inter-Group Agonistic Behaviour

J.M.G. van der Dennen

ABSTRACT

The present paper deals with how and why loyalty structures and group identification (proto-ethnocentrism) evolve in the context of inter-group agonistic behaviour and male versus female transfer in primates, social carnivores, dolphins, and early hominids (all social and 'brainy' species). Rather than 'aggression' – however conceptualized – Van der Dennen's 1995¹ investigation of the evolutionary origins of inter-group conflict in social carnivores and primates identified (a) the capability to form polyadic coalitions (selfish and opportunistic co-operation with more than one conspecific) as the necessary pre-condition, which in turn required (b) sociality; (c) Machiavellian intelligence; and (d) group territoriality and proto-ethnocentrism. Proto-ethnocentrism is supposed to imply some kind of group identity, i.e., the ability to recognize in-group versus out-group members, to discriminate between these categories, and to preferentially treat in-group members to positive reciprocal (altruistic) interactions such as protection, nepotism, and sharing of resources. The paper outlines the phylogenetic and socio-ecological principles governing group formation, in-group altruism, out-group antagonism, and inter-group agonistic behaviour.

INTER-GROUP AGONISTIC BEHAVIOUR (IAB)

In Asian colobines, group home-range sizes for some species typically overlap and both inter-group tolerance and aggression have been observed.² Genuinely territorial primate and social carnivore species, however, typically resent territorial intrusion and/or violations of their territorial integrity: they indulge in what Van der Dennen (1995) has called Inter-Group Agonistic Behaviour, or IAB.³

Inter-group and inter-community agonistic behaviour has been described in the following species (Table 1):

Table 10.1: The Extent of Animal Inter-Group and Inter-Community Agonistic Behaviour.

<i>Turdoides squamiceps</i> (Arabian babbler);
<i>Gallinula mortierii</i> (Tasmanian native hen);
<i>Tursiops truncatus</i> (bottle-nosed dolphin);
<i>Helogale undulata</i> (dwarf-mongoose); f/m
<i>Suricata suricatta</i> (slender-tailed meerkat);
<i>Otaria byronia</i> (southern sea lion);
<i>Gazella g. gazella</i> (mountain gazelle) f/m
<i>Crocuta crocuta</i> (spotted hyena);
<i>Canis lupus</i> (wolf); f/m
<i>Lycan pictus lupinus</i> (Cape hunting dog); f/m
<i>Panthera leo</i> (lion);
<i>Acinonyx /Cynaelurus/ jubatus</i> (cheetah);
<i>Lemur catta</i> (ring-tailed lemur); f/m
<i>Lemur /Eulemur/ fukus</i> (brown lemur); *
<i>Haplemur griseus</i> (grey gentle lemur);
<i>Propithecus verreauxi</i> (white or Verreaux's sifaka); f/m
<i>Indri indri</i> (indri); *
<i>Saguinus imperator</i> (emperor tamarin); f/m
<i>Saguinus fuscicollis</i> (saddleback tamarin); f/m
<i>Saguinus mystax</i> (moustached tamarin);
<i>Callicebus moloch</i> (dusky titi monkey); f/m
<i>Callicebus torquatus</i> (yellow-handed titi monkey); *
<i>Saimiri sciureus</i> (squirrel monkey);
<i>Alouatta fusca</i> (brown howler monkey);
<i>Alouatta palliata</i> (mantled howler monkey);
<i>Alouatta seniculus</i> (red howler monkey); f/m
<i>Cebus apella</i> (brown or black-capped or tufted capuchin); *
<i>Cebus albifrons</i> (white-fronted capuchin); *
<i>Cebus capucinus</i> (white-faced capuchin);
<i>Cebus olivaceus</i> (wedge-capped capuchin); f/m
<i>Ateles belzebuth</i> ([long-haired] spider monkey);
<i>Brachyteles arachnoides</i> (muriqui or woolly spider monkey); *
<i>Lagothrix lagothricha</i> ([Humboldt's] woolly monkey); f/m
<i>Presbytis /Semnopithecus/ entellus</i> (gray or Hanuman or Ceylon langur); f/m
<i>Presbytis /Trachypithecus/ johnii</i> (Nilgiri langur);
<i>Presbytis pileata /Trachypithecus pileatus/</i> (capped langur);
<i>Presbytis cristata /Trachypithecus cristatus/</i> (silver(ed) leaf monkey or lutong);
<i>Presbytis senex /Trachypithecus retulus/</i> (purple-faced langur);
<i>Presbytis aygula</i> ([Sunda Island] leaf monkey); f/m
<i>Presbytis potenziani</i> (Mentawai langur); f/m
<i>Colobus /Procolobus/ badius</i> (red colobus);
<i>Colobus guereza</i> (black-and-white colobus); f/m
<i>Cercopithecus /Lophoceros/ albigena</i> (crested or grey-checked mangabey); f/m
<i>Cercopithecus /Chlorocebus/ aethiops</i> (vervet); f/m
<i>Cercopithecus ascanius</i> (redtail monkey); f/m
<i>Cercopithecus mitis</i> (guenon or blue monkey); f/m
<i>Cercopithecus neglectus</i> (De Brazza's monkey); *
<i>Miopithecus talapoin</i> (talapoin); *
<i>Erythrocebus patas</i> (patas monkey); f/m

Table 10.1: Continued

<i>Papio hamadryas</i> (hamadryas or desert baboon);
<i>Papio cynocephalus</i> (yellow or savanna baboon); f/m
<i>Papio anubis</i> (olive baboon);
<i>Papio ursinus</i> (chacma baboon);
<i>Macaca fascicularis</i> (kra or long-tailed or crab-eating macaque); f/m
<i>Macaca fuscata</i> (Japanese macaque); f/m
<i>Macaca mulatta</i> (rhesus monkey); f/m
<i>Macaca radiata</i> (bonnet macaque); *
<i>Macaca sylvanus</i> (barbary macaque);
<i>Macaca thibetana</i> (Tibetan macaque); f/m
<i>Hylobates lar</i> (white-handed gibbon); f/m
<i>Hylobates klassii</i> (Kloss's gibbon); f/m
<i>Hylobates agilis</i> (agile or dark-handed gibbon); f/m
<i>Hylobates moloch</i> (moloch or silvery gibbon);
<i>Hylobates pileatus</i> (pileated or capped gibbon); f/m
<i>Hylobates (Symphalangus) syndactylus</i> (siamang);
<i>Gorilla g. berengae</i> (mountain gorilla);
<i>Pan paniscus</i> (bonobo or pygmy chimpanzee); *
<i>Pan troglodytes</i> ((common) chimpanzee).

Legend:

* = Aggressive inter-group encounters are reported to be (extremely) rare.

f/m = Both sexes, or mainly females, actively participate in the conflict (*vide infra*).

In brackets [] the species names according to the recent primate taxonomy by Groves (1993).

For references see Van der Denen (1995).

GENERAL OBSERVATIONS ON ANIMAL LAB

Among social carnivores, a number of group-territorial species show co-ordinated lethal attacks. In wolves, family-based packs occasionally invade neighbouring packs' territories, attacking residents. Mech¹ found that intra-specific conflict accounted for 43 per cent of deaths not caused by humans. Among spotted hyenas, which, like wolves, live in family-based, territory-holding groups, intruders into a clan's territory are likely to be attacked and killed, and smaller clan subgroups patrol the territory boundaries, confronting other 'patrols'. Neighbouring clans sometimes engage in pitched battles over carcasses of prey that one or the other of the groups has killed.⁵

The following observations pertain specifically to the non-human primate species in the table.

1. The majority of species in which LAB has been documented belong to the primate order. The inter-group behaviour of primates is extremely variable both inter- and intra-specific and ranges from very relaxed and 'peaceful' to lethal raiding.

When two or more groups of primates meet, the resulting behaviour

may range from complete fusion of the groups (no antagonism), or mutual avoidance, via bluffing and intimidation, threats and displays, fights and chases, to outright killing.⁶

In most primate species, conflicts between groups are rare. Neighbouring groups generally avoid each other. When groups spot one another, the group most eccentric in relation to its home-range is generally the first to retreat, or, if a dominance-subordination relationship exists among the groups (see below), the subordinate group retreats.⁷

As a rule, most primate agonistic group encounters are of the 'ritualized contact' type, in which injuries are rare and hardly serious, and fatalities virtually unknown.⁸ Among primates, exclusive use of space is generally maintained by (a) site attachment; (b) site-dependent aggression; and (c) active defence of (exclusive access to) an area's resources by advertisement and/or eviction of intruders (territoriality).

In *Callicebus moloch*, spacing between groups is maintained by site-dependent aggression: the probability that a group will attack, rather than avoid, another group depends on the site at which the encounter takes place. In this (and other) species, that probability is low at the centre of the group's own range, increases the closer the group is to the boundary, and then drops off rapidly as the boundary is crossed. The outcome of an aggressive encounter therefore varies with locality. Each group is more aggressive and therefore displaces other groups more easily when it is within its own exclusive area. Groups are most aggressive close to, but on their own side of, the boundary: a 'doughnut'-shaped aggression field⁹ that results in the clear definition and reinforcement of the conventional location of the boundaries. Typically, chasing occurs, but physical contact is rare. The ordinal positions of dominance among groups (see below) are thus contingent upon their positions on a central-peripheral axis across their ranges.¹⁰

2. Communal defence of territory against conspecific intruders seems to be the most common manifestation of IAB in primates and social carnivores.¹¹ In capped langurs, males appear to use inter-group encounters as a means of defending their own females while gaining access to those of other groups.¹² Mate defence and the exploration of new breeding opportunities appear to be important functions of inter-group conflict in other primate species too.
3. For some primate species, agonistic inter-troop or inter-community encounters may be highly attractive (at least for some individuals, mostly young males),¹³ and confrontations may be actively sought and provoked (which suggests intrinsic motivation: they seem to be 'spoiling for a fight'). According to Poirier,¹⁴ a very interesting feature of colobine (genera *Colobus* and *Presbytis*) agonistic inter-group encounters is the fact that they have readily available means of avoiding such contact.

In many Old World species, sub-adult and adult males are involved in

these skirmishes. On the other hand, it has become increasingly clear lately that *female* involvement in IAB has been systematically underestimated. Manson and Wrangham¹⁵ state:

Among humans and chimpanzees, males are actively involved in inter-group aggression whereas females are largely limited to a supporting role. This low level of involvement by females is unusual among primates. For example, among rhesus macaques (*Macaca mulatta*) at Cayo Santiago, 'violent inter-group squabbles... were marked by sustained fighting in line formation... 20 animals faced off with individuals of an opposing group and reciprocally lunged, batted, and growled... participants in the line were most often adult females and 2- to 5-year-old males (i.e., juveniles and sub-adults)' (Hausfater 1972).¹⁶

In primate species defending territories, and those characterized by male dispersal (or female philopatry), female hostility toward other groups and co-operation in inter-group aggression is common, and may involve both resource defence against extra-group females, and, more or less collective, antagonism toward migrant, potentially infanticidal, males. Female antagonism toward extra-group females also occurs in some of the social carnivores.

In monogamous primate species (e.g., Hylobatidae [gibbons]), females may be as aggressively participating in co-operative territory defence and other inter-group interactions as males.¹⁷ In primate species characterized by female dispersion, in which the females transfer to new groups, on the other hand, females tend not to participate in aggressive inter-group interactions: e.g., gorillas.¹⁸

Female involvement in inter-group aggression has been proposed to depend on whether resources that limit female reproduction are defensible through co-operative action. In such 'matrilineal' species,¹⁹ only females are committed by birth and temperament to the fortunes of their troop. Accordingly, species in which females co-operate may be expected to be those with female philopatry. This hypothesis was tested by Manson and Wrangham (1991).²⁰ Their data indicate that female philopatry and female participation in inter-group aggression are indeed correlated ($\chi^2 = 8.26$; $\Phi = .76$; $p < 0.01$). Female philopatry also appears to be associated with female participation in inter-group aggression in social carnivores such as spotted hyenas²¹ and lions.²²

4. When home-ranges overlap extensively, the aggressive defence of a particular resource may be more costly than the simple avoidance of other groups. In such cases, inter-group competition is often mediated by the relative dominance of the groups involved. This results in a definite linear group dominance hierarchy revealed by approach-retreat encounters.²³

- Little is known yet about bonobo inter-community encounters. Smaller foraging parties normally avoid larger ones. When encounters occur they appear mildly antagonistic, ranging from peaceful mixing in the border area, non-lethal fighting (no observation has been made of participants killed in inter-group fights), to clashes sometimes leading to bloody wounds.²⁴ There appears to be inter-group dominance attenuating agonistic contacts.²⁵
5. Concerted action and scouting behaviour of group males seem to indicate a 'consciousness of belonging'.²⁶ Especially in relation to human ethnocentrism and xenophobia, it is particularly interesting that in the non-human primates generally – as in humans – intra-group cohesion and inter-group hostility may be correlated.²⁷

RAIDING VERSUS PITCHED BATTLE: THE CHIMPANZEE VERSUS THE BABOON LAB PATTERN

In the primates' group-antagonistic behaviour, morphologically, two more or less distinct patterns are discernible: (1) a pattern resembling the 'pitched battle' with parallel front lines, mutual threats, sorties and chases, resulting in none to few casualties (and much 'sound and fury'), as described most impressively in baboons (the *baboon pattern*); and (2) a sneak-attack pattern, involving stealth, silent male patrolling, intentional and lethal attack on qualitatively and quantitatively weaker victims (often solitary and female), accompanied by unusual cruelty and frenzy, more resembling the human raid- and ambush-type of warfare, exemplified by the chimps of Gombe (the *chimpanzee pattern*). The latter (called 'lethal male raiding' by Wrangham, and [the non-human equivalent of] 'genocide' by Diamond²⁸) is peculiarly unique and confined, as far as is known, among non-human primates, to this species.

It seems that the particular social organization, cognitive capacities (and other psychological 'pre-adaptations'), as well as, possibly, ecological circumstances of increased group competition, have facilitated development of a close parallel to human raiding in the Gombe chimpanzees. The human male, evidently, has both patterns at his disposal. All the other descriptions of LAB in the literature can be understood to be various mixtures or combinations of these two idiosyncratic patterns.

The pitched battle provides a striking parallel between primates and humans. In humans too, pitched battle is the *least* bloody and lethal form of primitive warfare (often boiling down to a few dyadic duels), and simultaneously the most clamorous, vociferous and emotional spectacle, abundant with magnificent display, showing-off of superb callisthenic skills, and torrents of verbal insults and obscenities; in short, an excellent *show of ferocity*, ending as soon as the first casualty has occurred. It also appears to be the most ritualized, regulated and conventionalized form of warfare. The

main difference, of course, is that in baboons it is often the result of a chance encounter between groups, while in humans it is more often than not premeditated and pre-arranged (even the identity of the casualty-to-be may be pre-ordained).²⁹

Wrangham and Peterson describe the cacophonous skirmishes of the primate 'pitched-battle' pattern as follows:

In some monkey species the fight escalates to where a group of females lines up as a tight phalanx, warriors moving shoulder to shoulder, snarling and lunging and screaming at the opposing phalanx only a few inches away. Battle lines form and re-form, isolated encounters occur at the edges of the main action, and the troops may fight for an hour or more until exhausted or until the weaker yields.³⁰

The goal in these fights over land or status is merely the opponent's defeat and withdrawal, not the opponent's physical elimination. Note that the battle-line formation or phalanx, in primate as well as human warriors/soldiers, probably results from each individual trying to have its vulnerable flanks protected, as Turney-High suggested as early as 1949.³¹

In the 1970s, primatologists³² reported on the inter-community relationships of the Gombe (Tanzania) population of chimpanzees, especially episodes of what Goodall literally called 'primitive warfare'. Goodall describes several such lethal male raiding episodes in some (gruesome) detail. 'It seems,' she states, 'that we have been observing a phenomenon rarely recorded in field studies – the gradual extermination of one group of animals by another, stronger, group.' Why, she wondered, would the aggressors attempt to kill, maim or injure their victims instead of merely chasing them away? Both Goodall and colleagues and Bygott emphasize that the males actively seek out agonistic interactions with the adjacent community during their patrolling. Soon afterwards, Nishida, as well as Itani,³³ observed similar group antagonism in chimpanzees, which was described by Itani as a 'skirmish in a war'. On the patrolling behaviour of some 'warrior groups' Itani also reports that 'they looked as if they were aiming for the best chance of encountering another group', or as if they were looking for an opportunity to 'hunt down' conspecifics and inflict fatal injuries.³⁴ Furthermore, the attacks were all characterized by 'unusual brutality and persistence',³⁵ and the observers could not escape feeling that the aggressors were 'intentionally' trying to kill their victims. As Itani phrased it: 'antagonistic interactions of a group versus an individual, or a group versus another group, *with the intent to kill*, is peculiar to chimpanzee society'.³⁶

Interestingly, these inter-community encounters involve mostly males. Females (usually while in oestrus) sometimes accompany males on patrol, but they do not typically initiate 'hostilities'.³⁷ Another intriguing observation is that the intense excitement shown by the aggressors during and after the

attacks rather easily 'spills over' into hunting and killing other primates (red colobus or young baboons), which might suggest that at least in some instances similar motivational mechanisms may be involved in both intraspecific violence and interspecific predation.³⁸ Both Ghiglieri and Alexander³⁹ speculate that the raiding strategy may be a pattern common to the human-chimpanzee-bonobo (HUCHIBO) clade.

Unlike gorillas and orangutans, males of the chimpanzee-bonobo-human clade retain their male offspring predominantly, live in closed social groups containing multiple females, mate polygynously, restrict their ranging to a communal territory, are cooperatively active in territorial defence, and, apparently, when a neighbouring community weakens, the males of some communities make a concerted strategic effort to stalk, attack, and kill their rivals as do men.

Especially, the combination of male-male co-operation, 'proto-ethnocentrism', group-territoriality and female transfer has been singled out as the starting condition for lethal inter-group violence.⁴⁰

Perhaps species with a more elaborate cognitive make-up need extra strong group demarcations, the strength of which must be somehow related to the species' affective system. Maybe chimpanzees, like our own species, have very strong imaginations (schemata or mental representations) of *we* and *they* ('proto-ethnocentrism', or what Kawanaka called 'a consciousness of belonging').⁴¹

Besides the general, more elaborate cognitive make-up, there may be highly (content) specific cognitive mechanisms involved, which would also, at least partly, explain why 'war-like' inter-group conflict is actually so rare in mammals in general, and primates in particular. One should not lose sight of the fact that, despite the impressive list of species which do, thousands of other species do *not* have 'inter-group aggression' in their behavioural repertoire. In a similar vein, Tooby and Cosmides⁴² have reasoned that the distribution of war in the animal kingdom is limited by the same factor that limits the emergence of the multi-individual (polyadic) co-operation on which war depends: specific cognitive pre-adaptations, and a distinctive coalitional psychology. More generally, the similarities between chimpanzee and human lethal male raiding seem to suggest a common evolutionary background.⁴³

SOCIO-ECOLOGY: MAKING SENSE OF IT ALL

Can we make sense of, and bring some order to, the apparent diversity of the inter-group behavioural patterns in the non-human primates and in the other species we have encountered? The most daring attempt in that direction is the socio-ecological approach as developed by Wrangham, Van Schaik, Van

Hooff, and Cheney, among many others, on the ultimate causes of primate sociality.¹¹

1. Primates (organisms in general) are considered to behave as if they were maximizing their reproductive success (RS), and to compete for resources necessary to achieve this 'aim'.
2. As scramble competition (also called 'exploitation competition') and contest competition (also called 'exclusion competition' or 'interference competition') can occur within social groups as well as between social groups, four main types of competition ought to be distinguished: Within-Group Scramble (WGS), Within-Group Contest (WGC), Between-Group Scramble (BGS), and Between-Group Contest (BGC). All four types of competition can be present simultaneously in one species, but my focus here is BGC competition. The main conditions giving rise to contest competition within as well as between groups are: (a) resources in short supply, and (b) the defensibility of access to those resources. The factors limiting the reproductive success of males and females tend to be different, however, due to the strong asymmetry in parental investment. Consequently, males and females compete for different resources, and the competitive and co-operative (alliances, coalitions, bonding) isosexual interactions, as well as male-female bonds, are expected to reflect these different interests.
3. Predation pressure largely determines sociality versus solitariness, while distribution and monopolizability of food resources largely determine the competition regime. Predictable and defendable resources are conducive to contest competition within and between groups, while abundant, non-clumped, undefendable food resources are conducive to scramble competition (i.e., competition in terms of efficiency of exploitation). When kin-based alliances of females increase access to food patches, females are expected to remain in their natal groups and co-operate with kin, and to form hierarchies of nepotistic 'matriarchal clan systems'. They are also expected, as the resident sex, to be hostile towards (females of) other groups, in proportion to the economic defensibility of the home-ranges, and to participate in inter-group conflicts as ferociously as males, or even more so. As males may aid females in dominating other groups, aggression toward extra-group males is expected to be less severe than toward extra-group females. Similarly, monogamous species are predicted to defend home-ranges aggressively.
4. The competition regime largely determines the distribution and organization of females. In those species characterized by female dispersal, females are expected to avoid agonistic inter-group interactions and not to participate in home-range defence. The inter-group behaviour of males, on the other hand, should primarily involve the defence of females against extra-group males.

5. The distribution, organization, and reproductive competition of males are determined largely by the distribution, organization, and monopolizability of females. When BGC competition is important, group members are expected to form a large alliance in order to improve their competitive ability as a group. This generally implies a more relaxed and egalitarian WGC regime; otherwise subordinates might either refrain from taking risks in inter-group conflicts, or even defect to another group.

In addition to food, males are expected to compete, above all, over access to females. Whether this competition takes the form of scramble or contest competition is determined principally by the distribution in space and time of oestrus females. If females live in compact groups, access to them can be monopolized, which results in female defence polygyny (either one-male groups if the females can be guarded or herded effectively, or else multi-male groups). If the home-ranges in which the females live, or the resources to which they are attracted, can be defended effectively, this gives rise to resource defence polygyny. In these situations, intrasexual selection will favour contest vigour and dimorphism in males. If monopolization of females is impossible (females actively resisting being monopolized or choosing a diversity of mating partners), males may form either a monogamous bond with a single female (most often in the form of exclusive consort relationships with a fertile female), or engage in scramble competition polygyny, in which case natural selection favours sperm competition.

The male reproductive competition regime largely determines the 'politics' of males, the genesis of (opportunistic) coalitions and support strategies, co-operation in hunting and inter-group conflict if present, the sharing of prey, and the functional analogy to human 'fraternal interest groups' in chimpanzees.

Male philopatry becomes an option when female contest competition is relaxed, and therefore the pressure on females to be philopatric is low. This situation is expected to facilitate the formation of preferably kin-based male alliances ('fraternities'), which defend access to a territory and to the females attracted to it. Such a co-operative resource defence polygyny thus depends on restraint in within-group competition (especially sexual tolerance) in combination with co-operation in between-group competition. The 'wars' (lethal male raids) between chimpanzee communities may therefore be viewed as male reproductive strategies in which coalitions of males increase their territory and their access to females living on, or lured to, that territory.

In contrast to the 'matrotic' primate societies structured around female coalitions and matriline, primate communities organized around male interests 'naturally tend to follow male strategies and, thanks to sexual selection, tend to seek power with an almost unbounded enthusiasm. In a nutshell: Patriotism breeds aggression. Males have evolved to possess strong

appetites for power because with extraordinary power males can achieve extraordinary reproduction.¹⁵

Wrangham, and subsequently van Hooff and van Schaik,¹⁶ reason that coalitions and alliances are expected only where there is a potential for contest competition, be it for food, for safety, or for matings. As van Hooff and van Schaik put it: 'In contest competition for limiting resources, primates cooperate to improve their competitive ability',¹⁷ while de Waal¹⁸ has argued that coalitions of chimpanzee males are more opportunistic and Machiavellian, and more purposefully competitive and violently aggressive than the retaliation- and sympathy-based coalitions of chimpanzee females. It has also frequently been pointed out that post-agonistic reconciliation behaviours *within* a number of primate groups are prevalent, but that after *inter-group* conflict (generally more violent and lethal), reconciliation is absolutely non-existent, reflecting the close to distant kin dimension:

The ambiguity between the need for a macro-coalition of all males in intergroup conflict, and the need for each male to participate in smaller coalitions in intragroup conflict, may have stimulated the evolution of the remarkable strategic manoeuvrability of this species as it requires a balancing, at two different levels, of the pros and cons of competition and cooperation.¹⁹

Young males of the bottlenose dolphin (*Tursiops truncatus*) are even capable of forming 'second-order alliances' or 'supercoalitions' for the purpose of stealing and sexually monopolizing young females from rival groups.⁵⁰

In a 1992 paper, Harcourt and de Waal drew the following conclusion regarding co-operation and conflict: '[A]t one level of analysis, the functional level, the level of pay-offs or consequences of action, the processes occurring in animals and humans seem very similar ... all [authors] argue that individuals cooperate for the mutual advantages that cooperation can bring in inter-group competition'⁵¹ In the same volume, Harcourt⁵² pointed out that '[o]nce one animal uses coalitions as a competitive strategy, the other members of the society have to do so too if they are to compete effectively'; and this process is irreversible and escalating. Once humans began to use social co-operation as a principal means of competition, so too, argued Alexander in *Darwinism and Human Affairs*,⁵³ they began to compete socially not only as individuals but in coalitions of every imaginable size and variety.

The intricacies and complexities involved in polyadic coalitions within, and fierce, stealthy, raiding-type coalitional competition between, groups may also have established a positive feedback loop with social and Machiavellian intelligence, and 'proto-ethnocentrism'.⁵¹

In order to maximize their mating opportunities, male coalitions do not attempt to monopolize females directly, but indirectly, by means of the monopolization and 'conquest' of territory. A positive feedback loop of

escalating intensity would then be established between successful conquest of territory, elimination of competitor groups by means of intimidation or violence, and the development of the male 'gangs' into true 'warrior coalitions'. The amazing cognitive and affectional make-up of the chimpanzee might, then, partly be a spin-off of this ongoing evolution.

There is an astounding similarity to the situation among humans. The development of social structures, in which men join in discrete solidarity groups (fraternal interest groups), is regarded as a condition that favours the development of bellicose tendencies.⁵⁵ Otterbein and Otterbein⁵⁶ showed in 1965 that in humans, feuding is most likely to develop among exogamous patrilineal groups with patrilocal post-marital residence. This arrangement ensures that closely related males will remain co-resident or live contiguously for life, while females are exchanged among various patrilineages or patrilans. Otterbein and Otterbein characterized these groups as 'fraternal interest groups'.

ULTIMATE EXPLANATIONS OF CHIMPANZEE 'WARFARE'

Chimpanzees, like humans, are conspicuous for their 'hunting and predatory behaviour',⁵⁷ and, like humans, they are highly ethnocentric-cum-xenophobic.⁵⁸ From the individual-level-of-selection point of view, according to Bygott's 1979⁵⁹ analysis, the chief advantage of collective territorial defence to a male chimpanzee is that he need be involved in very few potentially harmful confrontations with competitors from other communities. A group of males is a more powerful deterrent to intruders than a single one, since a group can inflict a severe or lethal attack with minimal risk to its members. Therefore, 'By merely accompanying other males on border patrols (which can be combined with foraging), an individual male can help to maintain his continued access to a large number of females. This model implies that there would be strong selection for males to be rapidly aroused to attack strangers, particularly males, on sight.'

Goodall⁶⁰ herself explains the chimpanzee proto-warfare in terms of the idiosyncratic pattern of chimpanzee territoriality and pre-adaptations common in chimpanzees and early humans. Granted that destructive warfare in its typical human form (organized, armed conflict between groups) is a cultural development, it nevertheless required pre-adaptations to permit its emergence in the first place. The most crucial which Goodall identifies are co-operative group living, group territoriality, co-operative hunting skills, weapon use, and the intellectual ability to make co-operative plans. Another basic pre-adaptation, according to Goodall, was xenophobia: an inherent fear of, or aversion to, strangers, expressed by aggressive attack. Early hominid groups possessing these behavioural characteristics would theoretically have been capable of the kind of organized inter-group conflict that

could have led to destructive warfare. Chimpanzees not only possess, to a greater or lesser extent, the above pre-adaptations, but they show other inherent characteristics that would have been helpful to the dawn warriors in their primitive battles:

1. If the early hominid males were *inherently* disposed to find aggression attractive, particularly aggression directed against neighbours, as (at least some adolescent male) chimpanzees appear to do, this trait would have provided a biological basis for the cultural training of warriors.
2. In humans, cultural evolution permits *pseudospeciation* (term coined by psychiatrist Erikson). In its extreme form, pseudospeciation leads to the 'dehumanization' of other groups, so that they may almost be regarded as members of a different species. This process, along with the ability to use weapons for hurting or killing *at a distance*, frees group members from the inhibitions and social sanctions that operate within the group and enables acts that would not be tolerated within the group. Thus it is of considerable interest to find that the chimpanzees show behaviours that bear strong resemblance to, and hence may be precursors to, pseudospeciation in humans. First, their sense of group identity is strong; they clearly differentiate between in-group and out-group, between individuals who 'belong to us' and those who do not. This sense of group identity is, Goodall claims, far more sophisticated than mere xenophobia. The members of the Kahame chimpanzee community had, before they split, enjoyed close and friendly relations with their aggressors. By separating themselves, it is as though they forfeited their 'right' to be treated as group members – instead they were treated as strangers. Second, the patterns of attack strikingly differ from those utilized in typical intra-community aggression. 'The victims are treated more as though they were prey animals; they are "dechimpized".'

Diamond⁶¹ wondered why these chimps are such inefficient killers compared with humans:

Chimps' inefficiency as killers reflects their lack of weapons, but it remains surprising that they have not learned to kill by strangling, although that would be within their capabilities. Not only is each individual killing inefficient by our standards, but so is the whole course of chimp genocide. It took three years and ten months from the first killing of a Kahama chimp to the band's end...

Two further aspects of chimpanzee behaviour are of interest in relation to the evolution of behaviour associated with human inter-group conflict:

1. In the chimpanzee, as in humans, cannibalism may follow inter-group conflict.

2. Chimpanzees appear to possess the cognitive sophistication which is a prerequisite for the genesis of *cruelty*: they are capable to some extent of imputing desires and feelings to others, and they are almost certainly capable of feelings akin to human sympathy and empathy.⁶²

Another category of explanations centres on a cost/benefit analysis of chimpanzee proto-warfare. Several primatologists (for example Manson, Peterson, and Wrangham)⁶³ offer explanations based on the notions of 'resource alienability' and '(im)balance of power', determining the cost/benefit ratio of the behaviour: (inter-group) aggressive behaviour has come to be viewed as a tactical option pursued when assessment indicates that it will be cost-effective, or, in other words, when the benefits sufficiently outweigh the inherent costs. The cost of severe aggression by chimpanzees appears to be unusually low, because, in contrast to the situation in aggression by other primates, chimpanzee victims are immobilized. This prompts the hypothesis that lethal attacks are promoted by an imbalance of power. Specifically, unrestrained attacks on opponents are favoured merely because their cost is low. According to this hypothesis, long-term social bonds facilitate the formation of co-operatively attacking subgroups, and variation in subgroup size reduces the cost of damaging aggression to attackers with sufficient numerical superiority. The hypothesis predicts that (1) the cost to the aggressors will be low, (2) attacks will be restricted to occasions of overwhelming superiority, (3) potential victims will attempt to travel in large subgroups, and (4) attacks will occur whenever the opportunity arises.

In sum, evidence supports two influences on inter-group aggression by chimpanzees. First, attacks are lethal because where there is sufficient imbalance of power, their cost is negligible. Second, attacks are a male and not a female activity because males are the philopatric sex.

The relationship between male philopatry and predominantly male participation in inter-group aggression is explicable as follows:⁶⁴ across primate species, male philopatry is closely associated with male-male co-operation.⁶⁵ Chimpanzee social organization probably evolved from a system in which both sexes were solitary because of the high cost of feeding competition. Males then became able to travel in pairs, although this was still inferior to solitary travel as a foraging strategy.⁶⁶ But because singletons were then necessarily subordinate to pairs in mate competition, selection began to favour male gregariousness. Bonded males compete more effectively than solitaires, so males form bonds wherever the ecological costs of bonding are not prohibitive. Wrangham and Peterson's concept of the 'party-gang species' fits this theory.⁶⁷

Theoretically, the ultimate benefit of inter-group aggression among chimpanzees is expected to be increased access by aggressive males to reproductively valuable females, via either incorporation of neighbours or encroachment on the territory of neighbouring males.

Given the chimpanzee evidence, Manson and Wrangham⁶⁸ propose that imbalance of power must have been an important factor favouring the evolution of damaging aggression in humans also and that, through variability in subgroup size alone, power imbalances may have favoured lethal raiding even before the evolution of weapons. Accordingly, Manson and Wrangham hypothesize that, among foraging humans, where crucial material resources are alienable, inter-group aggression will occur primarily over those resources, while where they are not it will occur over women.

Why does all this not apply to females? Why do females not raid for reproductive access to males? Why is coalitional aggression either absent or extremely rare in females? As we have seen, coalitions play an important role in male chimpanzee politics. To be sure, coalitions are not unknown to, or beyond the grasp of, female chimpanzees, but females never seem to form coalitions for the purpose of communal violence. Why and whence this conspicuous difference between the sexes? Tooby and Cosmides,⁶⁹ whose approach predicts the striking asymmetry that exists between males and females in coalitional aggression, suggest some answers, which may be summarized as follows:

1. Coalitional aggression evolved because it allowed participants in such coalitions to promote their fitness by gaining access to reproductive resources. For males, females are the limiting reproductive resource, and the ultimate benefit of multi-male coalitional aggression is increased access to females. Males can easily be induced to go to war, despite its lethal effects on many of them. Selection will favour participation in the coalitional aggression regardless of the mortality among the aggressors (within broad limits).
2. Females, on the other hand, are rarely limited by access to males, so that the net reproduction of a coalition of females would drop in direct proportion to the number of females killed. In a curious fashion, males may be so ready to engage in coalitional aggression because it is reproductively 'safer' for them to do so. Females have more to lose, and less to gain, and such differences in consequences should be reflected in psychological sex differences in attitudes towards coalition formation and coalition-based aggression. The theme that females have never gained reproductively by coalitional violence also figures prominently in the sexual selection theory of the evolution of war developed independently by Low and van der Dennen.⁷⁰

All these attempts to explain chimpanzee proto-warfare are, not surprisingly, far from being mutually exclusive; rather, they emphasize different aspects and facets of the same intriguing puzzle. Virtually all theories converge in their final conclusion: the ultimate rationale of male raiding is enhanced access to 'nubile' females; and ecological selection pressures, sexual selection, and kin selection have fuelled this process.

Recently, Wrangham proposed that the imbalance-of-power hypothesis should be complemented with the concept of inter-community dominance:

The Imbalance-of-Power hypothesis proposes that the function of unprovoked intercommunity aggression (i.e. deep incursions and coalitionary attacks) is intercommunity dominance. By wounding or killing members of the neighbouring community, males from one community increase their relative dominance over the neighbours. According to the Imbalance-of-Power hypothesis, the proximate benefit is an increased probability of winning intercommunity dominance contests (non-lethal battles); this tends to lead to increased fitness of the killers through improved access to resources such as food, females, or safety.⁷¹

Boehm⁷² has systematically enumerated the similarities as well as the differences between chimpanzee and human IAB. Among the differences Boehm notes:

1. Chimpanzees do not seem to have anything resembling the blood feud; nor do they engage in all-out warfare, in which the mobilized males of one group attack another group as a whole, or in which two groups deliberately meet on the battlefield.
2. Communities of humans often 'manage' such intensive external conflicts by making external alliances that balance power, and by ending their wars with peace treaties.
3. Human warriors may be moved to engage in mass combat by a combination of patriotic ideology and negative sanctioning of cowards, two features of macro-coalitional competition that chimpanzees lack.

CHIMPANZEE HUNTING (AND MEAT SHARING) AND 'WARFARE'

Of all the 'higher' primates, only human beings and chimpanzees hunt and eat meat on a regular basis. Significantly, males do most or all of the hunting. For chimpanzees, meat is not only another way to get nutrients like fat and protein, but a means to make political bonds and gain access to sexually receptive females.⁷³ Kortlandt suggests that hunting is a form of social display in which male chimpanzees show off and reveal their prowess to other members of the community.⁷⁴

From a functional viewpoint, killing monkeys and outsider conspecifics is primarily extermination of food competitors, while the production of meat food is secondary because many other potential prey is spurned. From a motivational viewpoint, the killing technique and the response

of the onlookers ... show clearly that this is primarily an intimidation-redirection display aiming to impress anyone it may concern, while the meat is only a by-product Furthermore, the sharing of the meat after the violence has the characteristics of displacement and reassurance behaviour. Altogether, this is a unique (but all-too-human) combination and integration of heroism against outsiders, showing-off for insiders and meat production for socialization.... Nothing of this kind has been reported for the pygmy chimpanzee.⁷⁵

Perhaps, van Hooft⁷⁶ speculates, the development of co-ordinated male between-group aggression has paved the way for the development of such co-ordinated hunting, not only in chimpanzees but also in the hominid/human evolutionary trajectory. Eibl-Eibesfeldt proposed in 1975⁷⁷ that motivationally, hunting behaviour in chimpanzees has probably been derived from intra-specific aggression.

In this context, it may be significant that in the pygmy chimpanzee or bonobo (*Pan paniscus*), who exhibits only mild inter-group antagonism, males do not develop strong bonds and are not habitually co-operative hunters.⁷⁸ Significantly, bonobos neither hunt *monkeys* co-operatively nor wage war.⁷⁹ Kano made the intriguing suggestion that in the pygmy chimpanzees, the 'in-group feeling' among females is very strong, and therefore aggressive male expansion of territory is not connected with an increase in available females, and thus does not pay off. Wrangham and Peterson suggest that female power is the secret to male gentleness for intra-group interactions, while it is the food distribution that enabled this species to non-violent inter-group interactions.⁸⁰ Kortlandt has made the interesting observation that the friendliness and peacefulness (as well as the playfulness, polymorphic and promiscuous sexual behaviour which functions as reassurance and reconciliation, and the absence of monkey hunting) among the adult 'gracile chimpanzees' is more or less an accidental by-product of their anatomical and behavioural paedomorphism, or juvenilization of the species.⁸¹

De Waal⁸² reports that the best predictor of hunting by male chimpanzees in Gombe National Park is the presence of oestrous females in their travelling party. One motivation for hunting, then, may be to increase mating success through sharing meat with females in exchange for sexual services.⁸³

Food sharing is rather common behaviour in social carnivores (and some other species such as vampire bats), but uncommon in primates beyond the mother-offspring dyad. Meat sharing - once dismissed as 'tolerated scrounging' - has regularly been observed in common chimpanzees, however, though its 'altruism' has been questioned. Silk,⁸¹ for example, stated:

[A]dult male chimpanzees (Wrangham 1977) may share meat only because it is less costly to share than to defend access to their kills. Male chimpanzees (McGrew 1975) and orangutans (Galdikas and Teleki 1981) may also derive benefits when they share with adult females if such acts increase the probability that sexually receptive females will mate with them. Individual selection or sexual selection may have favoured the evolution of food sharing in these contexts.⁸⁵

Kuroda reports that bonobo females are known to receive food from males immediately following, or even in the midst of, intercourse. De Waal also reports meat sharing in the 'Tai population of chimpanzees who co-operate in hunting monkeys and may even divide tasks during hunting.⁸⁶

Meat sharing in human 'primitive' societies has frequently been documented, in connection with norms and ideals of manhood and co-operativeness. The Mehinaku of Brazil, for example, have very outspoken ideas about what it is to be a real man: a real man is a good hunter who regularly provides meat for the people and who shares it altruistically. A real man is also a good wrestler and a strong personality. The women of disrespected men deceive their husbands with 'real men'. To cite Gilmore: '[t]he sexual norms of the Mehinaku allow tacitly that a woman deceives a bad wrestler. Knowing this, most of these women have adulterous relationships while their husbands are sulking helplessly.⁸⁷

The important point is that a bad wrestler probably also makes a bad warrior and mediocre hunter, and that the norms of manhood refer to some extent to co-operativeness and potential heroism. The other important point is, of course, that good hunters (as well as reputed warriors) have more women, more choice of women, and/or more direct access to women. This may explain why, in human males as in chimps and bonobos, meat sharing is so much 'showing off', and why so universally meat is traded for sex.

As de Waal⁸⁸ states: '... the hunter who consistently contributes more meat than his fellows may gain prestige and sexual privileges. In a Paraguayan hunter-gatherer culture studied by Hillard Kaplan and Kim Hill, for instance, successful hunters were reported to have more than their share of extra-marital affairs. The anthropologists speculate that women may have sex with these men to encourage them to stay in the band.'

Alcock⁸⁹ reasoned that the suite of occasional bipedalism, tool use, incidental hunting, adaptable and flexible behaviour, co-operation, and prolonged infant care and family maintenance, may be a phylogenetically ancient pongid package of adaptations modified by the new selection pressures associated with the hunting-gathering niche. Hunting large and sometimes dangerous animals, repelling non-human predators and driving off competitive species, should favour individuals capable of co-operation in planning and executing such complex behaviours. The great likelihood that

members of a band were close relatives would have further elevated the benefits of sociality and intraband co-operation.⁹⁰

GROUP TERRITORIALITY

Group territoriality, I propose, is the *trait d'union* between, and the communal theme in, chimpanzee 'lethal male raiding', human pre-industrial ('primitive') war, and contemporary state-level warfare (not to mention the inter-group agonistic behaviour of the social carnivores and 'war making' ants).

As we have seen, the raiding chimps attempt to extend their territory by encroaching on the territory of neighbouring males, thereby increasing the probability of access to reproductively valuable females. In 'primitive' war, territorial intrusion and the defence of territorial integrity rank next to revenge as the main war motives.⁹¹ In contemporary state-level war, territorial contiguity and border disputes have been singled out by quite a number of researchers as *the* universal and persistent underlying cause. Concerns over territory have been the underlying and fundamental source of conflicts ending in war during at least the last four or five centuries.⁹² Vasquez summarizes thus: 'Of all the possible issues states can fight over, the evidence overwhelmingly indicates that issues involving territory, especially territorial contiguity, are the main ones prone to collective violence.'⁹³

But why would collectivities not be willing to compromise or give in once a territorial issue becomes militarized? Vasquez and Henehan (1999) mention several theoretical rationales. One obvious reason would be that the territory in question has some intrinsic value in terms of resources or economic utility. A second possible reason is that the territory is of strategic value and hence affects national security issues. A third reason for territorial disputes lies not with the value of the land, but with the people on it; ethnicity has been considered a legitimate reason for claiming territory, even if it is not in one's possession. Peoples also often construct their identity around territory, and because of their historical significance (often associated with a previous war) particular pieces of land assume a special symbolic - and fiercely emotional - value (e.g., Kosovo for the Serbs).⁹⁴

Van der Dennen⁹⁵ proposed that there might be a profound relationship between (the evolution of) group territoriality and (the evolution of) ethnocentrism: ethnocentrism expressed spatially is territoriality; territoriality, expressed psychologically as strong group identity with clear demarcation of in- and out-group, is ethnocentrism. Ethnocentrism-cum-xenophobia (though not necessarily coterminous, as van den Berghe⁹⁶ correctly pointed out) is a universal trait in socio-territorial animals because strangers represent a potential threat to the local kin-group's socio-territorial integrity and continuity, and thus ultimately to its inclusive fitness. Several authors have proposed that it was adaptive, in the hominid

evolutionary trajectory, to be territorial, ethnocentric and xenophobic, for the purpose of protecting the in-group-and-kin-group interests.⁹⁷ If revenge raiding in human 'primitive' warfare is, *inter alia*, also a defence of the group identity and an instrument of distributive justice (reciprocal exchange), then it makes sense that the preponderant majority of accounts of warfare in 'primitive' peoples concerns petty feuding, and ranks with territoriality as the primary motives.⁹⁸

LOYALTY STRUCTURES (RULES OF LOYALTY/COMMITMENT/ALLEGIANCE/
DEVOTION/SOLIDARITY)

Kin selection gives rise to inter-individual bonds within and boundaries between human kin-groups. The basics and evolutionary rationales of ethnocentrism-cum-xenophobia, in-group/out-group differentiation and inter-group antagonism, were already well understood by Adam Ferguson, Spencer, Darwin, and Sumner.⁹⁹ The evolutionary theory of ethnocentrism and ethnic loyalty as extended kin nepotism has been elaborated by Van den Berghe and many others.¹⁰⁰ Drawing on Sahlins, Alexander offers a diagrammatic representation of the concentric intensity of kin solidarity (Figure 10.1). This conceptualization is summarized by Eibl-Eibesfeldt, an early theorist in the field:

In segmentary kinship societies, bonding ideologies thus call on the metaphor of kinship to create fictive descent from mythical ancestors and creators. Such beliefs bond all as quasi-blood relatives. ... Familial ties are, of course, stronger than the ties between village members, which are in turn stronger than intervillage ties within the one valley. The feelings of obligation and loyalty are graded in accordance with an inherited family bias.¹⁰¹

The 'layered' (and fluid), but always kin-centred, nature of human group-identification or solidarity on the one hand, and aggression or animosity on the other, can be gathered from the following Somali proverb: 'I against my brother; I and my brother against the family; I and my family against the clan; I and my clan against Somalia; I and Somalia against the world.' Social life is further structured according to the logic of 'The enemies of my enemies are my friends; and the friends of my enemies are my enemies.'

Vanhanen¹⁰² recently argued that the idea of ethnic nepotism might provide a coherent theoretical explanation for the emergence of ethnic conflicts across all cultural boundaries. All groups which can be conceived of as extended kin-groups may be referred to as 'ethnic groups' in a broad sense (tribal, national, linguistic groups, castes and religious communities). Evolutionary argumentation leads to the proposition that we can expect

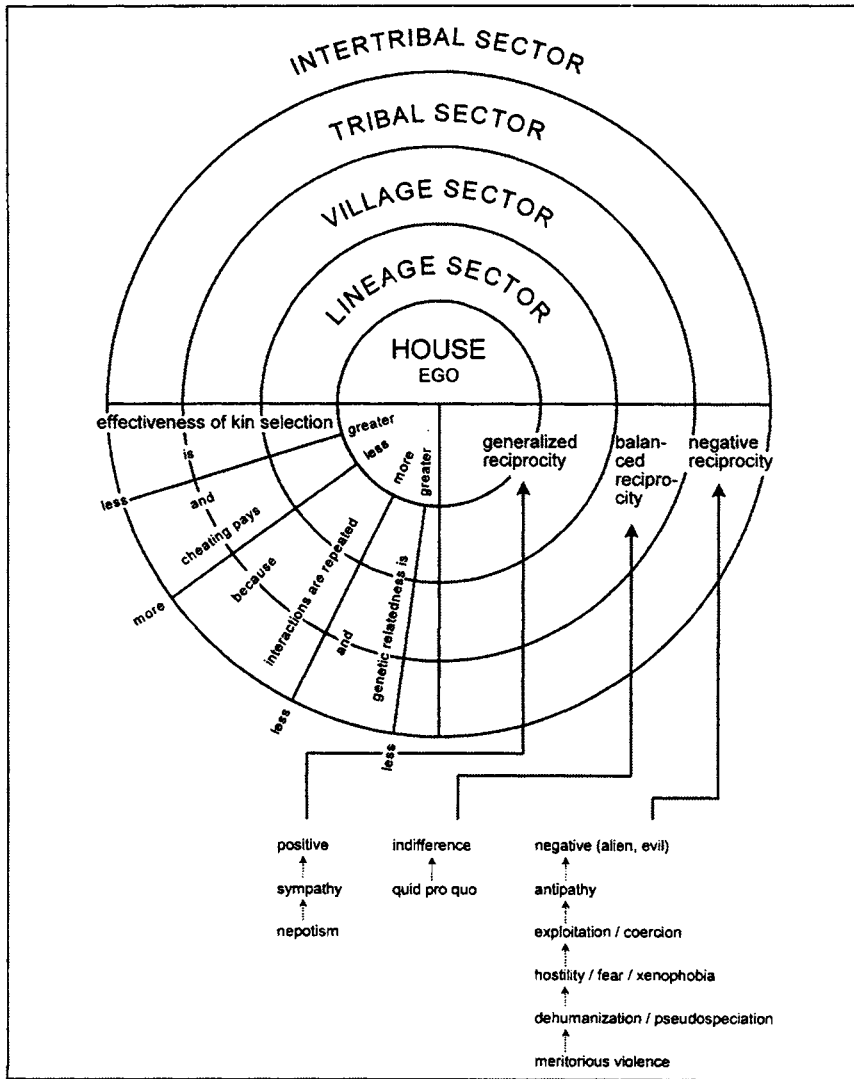


Figure 10.1: This diagram from Sahlins illustrates the different types of what he called 'social reciprocity' in primitive cultures. The information in the lower left quadrant has been added by Alexander to suggest how kin selection and evolutionary principles accord with reciprocity, as practised by human groups. The information in the lower right quadrant has been added by me (drawing by H. Wever and JMG van der Dennen)

the canalization of interest conflicts along ethnic lines in all ethnically divided societies. It is also plausible to expect that, in conflict situations, ethnic group identities will prove to be stronger than other types of group loyalties. As Tishkov¹⁰³ states: 'People use ethnic affiliation as one of the most accessible

and understandable forms of group solidarity.' This is so, according to Vanhanen, because ethnic loyalties are powered by ethnic nepotism, by our evolved disposition to favour kin over non-kin, and close kin over distant kin.¹⁰⁴ This theory is strongly supported by the empirical evidence (covering 183 contemporary countries). Vanhanen thus found strong empirical support for the hypotheses that:

1. Significant ethnic divisions tend to lead to ethnic conflicts.
2. The more a society is ethnically divided, the more ethnic nepotism tends to channel political and other interest conflicts along ethnic lines.

Ethnic diversity is not only a major predictor of low public investment in such public goods as schooling and infrastructure,¹⁰⁵ and the inability to provide minimum standards of living for its least advantaged members (Sanderson, Schubert and Tweed, and Vanhanen, all this volume), but it is also a major predictor of several measures of crime,¹⁰⁶ and all categories of violent - collective - conflict. Earlier studies by Rummel (in the 1960s), and Haas (1974), found that the heterogeneity in the composition of a population is consistently associated with the frequency of wars, military actions and foreign conflict casualties. Countries with many different ethnic groups, language communities, nationality groups, and religious and racial groups, enter wars more often than homogeneous polities. Rummel (1997) found that two simple measures, the number of ethnic groups and the number of religious groups a state has, are related to its collective (internal and external) violence: the more groups, the more violence.¹⁰⁷

NOTES

1. J.M.G. van der Dennen, *The Origin of War: The Evolution of a Male-Coalitional Reproductive Strategy* (Groningen: Origin Press, 1995).
2. C.P. Yeager and R.C. Kirkpatrick, 'Asian Colobine Social Structure: Ecological and Evolutionary Constraints', *Primates*, 39, 2 (1998), pp. 147-55.
3. See van der Dennen, *Origin of War*, ch. 3.
4. L.D. Mech, 'Productivity, Mortality, and Population Trends of Wolves in Northeastern Minnesota', *Journal of Mammalogy*, 58 (1977), pp. 559-74.
5. H. Kruuk, *The Spotted Hyena: A Study of Predation and Social Behavior* (Chicago: University of Chicago Press, 1972).
6. J.A. Eberhart and D.K. Candland, 'A Preliminary Model of Primate Intergroup Encounters', in P.F. Brain and D. Benton (eds), *Multidisciplinary Approaches to Aggression Research* (Amsterdam: Elsevier, 1981), pp. 577-84. See also D.L. Cheney, 'Interactions and Relationships Between Groups', in B.B. Smuts, D.L. Cheney, R.M. Seyfarth, R.W. Wrangham and T.T. Struhsaker (eds), *Primate Societies* (Chicago: Chicago University Press, 1989), pp. 267-81; see also van der Dennen, *Origin of War*, ch. 3.
7. K. Kawanaka, 'Intertroop Relationships Among Japanese Monkeys', *Primates*, 14, 2-3 (1973), pp. 113-59; Eberhard and Candland, 'Preliminary Model'; Cheney, 'Interactions'.

8. Eberhard and Candland, 'Preliminary Model'; Cheney, 'Interactions'; van der Dennen, *Origin of War*, ch. 3. The overwhelming majority of gregarious and social mammalian species does not have IAB in its behavioural repertoire. For a good number of species, the cost/benefit ratio of IAB precludes the evolution of such behaviour anyway, but for an unknown number of species it is less easy to explain why they lack this behaviour, which would be highly profitable as a high-risk/high-gain strategy. It is likely that they lack the requisite social and cognitive (domain-specific) skills, such as a coalitional psychology, to co-operate for the sake of orchestrated competition.
9. P.M. Waser and R.H. Wiley, 'Mechanisms and Evolution of Spacing in Animals', in P. Marler and J.G. Vandenbergh (eds), *Handbook of Behavioral Neurobiology*, Vol. 3 (New York: Plenum Press, 1979).
10. C.R. Carpenter, 'Aggressive Behavioral Systems', in R.L. Holloway (ed.), *Primate Aggression, Territoriality, and Xenophobia: A Comparative Perspective* (New York: Academic Press, 1974), pp. 459-96.
11. Baer and McEachron (1982) and McEachron and Baer (1982) have made clear why communal defence is selectively favoured. When one group encounters another over a limited resource, each group has a number of options. If troop A is using a limited resource and troop B arrives, troop A can (1) avoid troop B by retreating, (2) try to ignore troop B, (3) co-operate with troop B, or (4) compete with troop B. If the resource is easily available, it might pay troop A to retreat and avoid any possibility of conflict. However, in the long evolutionary run, this is a self-defeating strategy. Sharing a resource (options 2 and 3) is likely to occur when it is not very limited or extremely difficult to defend. If the resource is really limited, sharing is very unlikely; it would lead to a decrease in inclusive fitness of everyone involved. If conflict is inevitable, it makes better evolutionary sense for the troops to determine ownership of the resources *as groups*, rather than having both conflict and decreased inclusive fitness. See D. Baer and D.L. McEachron, 'A Review of Selected Sociobiological Principles: Application to Hominid Evolution I: The Development of Group Social Structure', *Journal of Social and Biological Structures*, 5, 1 (1982), pp. 69-90; D.L. McEachron and D. Baer, 'A Review of Selected Sociobiological Principles: Application to Hominid Evolution II: The Effects of Intergroup Conflict', *Journal of Social and Biological Structures*, 5, 2 (1982), pp. 121-39.
12. C.B. Stanford, 'Social Dynamics of Intergroup Encounters in the Capped Langur (*Presbytis pileata*)', *American Journal of Primatology*, 25, 1 (1991), pp. 35-47.
13. J.D. Bygott, 'Agonistic Behavior, Dominance, and Social Structure in Wild Chimpanzees of the Gombe National Park', in D.A. Hamburg and E.R. McCown (eds), *The Great Apes: Perspectives on Human Evolution*, Vol. V (Menlo Park: Benjamin/Cummings, 1979), pp. 405-28; D. Fossey, 'Development of the Mountain Gorilla (*Gorilla gorilla berengei*): The First Thirty-Six Months', in Hamburg and McCown (eds), *The Great Apes* (1979), pp. 139-86; J. Goodall, *The Chimpanzees of Gombe: Patterns of Behavior* (Cambridge MA: Harvard University Press, 1986).
14. F.E. Poirier, 'Colobine Aggression: A Review', in Holloway (ed.), *Primate Aggression* (1974), pp. 123-58.
15. J.H. Manson and R.W. Wrangham, 'Intergroup Aggression in Chimpanzees and Humans', *Current Anthropology*, 32, 4 (1991), pp. 369-77. See also R.W. Wrangham and D. Peterson, *Demonic Males: Apes and the Origins of Human Violence* (Boston: Houghton Mifflin, 1996).
16. G. Hausfater, 'Intergroup Behavior of Free-Ranging Rhesus Monkeys (*Macaca mulatta*)', *Folia Primatologica*, 18 (1972), pp. 78-107.
17. Cheney, 'Interactions', pp. 267-81.

18. D. Fossey, 'Mountain Gorilla'; D. Fossey, *Gorillas in the Mist* (Boston: Houghton Mifflin, 1983).
19. Wrangham and Peterson, *Demonic Males*, p. 232.
20. Manson and Wrangham, 'Intergroup Aggression'; see also van der Dennen, *Origin of War*.
21. Kruuk, *Spotted Hyena*.
22. C.R. Packer, D. Scheel and A.E. Pusey, 'Why Lions Form Groups: Food is Not Enough', *American Naturalist*, 136 (1990), pp. 1-19.
23. Cheney, 'Interactions'; Kawanaka, 'Intertroop Relationships'.
24. A. Badrian and N. Badrian, 'Social Organization of *Pan paniscus* in the Lomako Forest, Zaire', in R.L. Susman (ed.), *The Pygmy Chimpanzee: Evolutionary Biology and Behavior* (New York: Plenum Press, 1984), pp. 325-46; T. Kano, 'Social Regulation for Individual Coexistence in Pygmy Chimpanzees (*Pan paniscus*)', in D. McGuinness (ed.), *Dominance, Aggression and War* (New York: Paragon House, 1987), pp. 105-18; T. Kano, 'The Bonobo's Peaceable Kingdom: Zaire's Pygmy Chimpanzees May Be the Most Pacific of Primates', *Natural History*, 11, 90 (1990), pp. 62-71; T. Kano, *The Last Ape: Pygmy Chimpanzee Behaviour and Ecology* (Stanford: Stanford University Press, 1992); T. Kano and M. Mulavwa, 'Feeding Ecology of the Pygmy Chimpanzee (*Pan paniscus*) of Wamba', in Susman (ed.), *The Pygmy Chimpanzee* (1984), pp. 223-34; B.M. Knauff, 'Violence and Sociality in Human Evolution', *Current Anthropology*, 32, 4 (1991), pp. 391-409; Wrangham and Peterson, *Demonic Males*.
25. Kano, *Last Ape*.
26. Kawanaka, 'Intertroop Relationships'.
27. D.L. Cheney, 'Intragroup Cohesion and Intergroup Hostility: The Relation Between Grooming Distributions and Intergroup Competition Among Female Primates', *Behavioral Ecology and Sociobiology*, 3, 4 (1992), pp. 334-45; F.K. Salter, 'Ethnic Nepotism as a Two-Edged Sword: The Risk-Mitigating Role of Ethnicity among Mafiosi, Nationalist Fighters, Middlemen, and Dissidents', in F.K. Salter, (ed.), *Risky Transactions: Trust, Kinship and Ethnicity* (Oxford and New York: Berghahn, 2002). In a number of the species reviewed, in which inter-group aggression is a serious and concerted business, there seems to be an intricate relationship between intra- and inter-group processes. It even seems, particularly in the chimpanzee case, as if relatively 'peaceful' intra-group relations are conditioned by, and interdependent on, some level of xenophobia (or, rather, proto-ethnocentrism, a 'tendency toward closure of the social networks' [Wrangham, 1987]) and hostility towards out-groups, as if it were an export-of-conflict mechanism. Note, however, that inter-group antagonism is no guarantee for the suspension of intra-group competition, and does not necessarily alleviate tense and ambivalent male-male relationships. R.W. Wrangham, 'The Significance of African Apes for Reconstructing Human Social Evolution', in W.G. Kinzey (ed.), *The Evolution of Human Behavior: Primate Models* (Albany: SUNY Press, 1987a), pp. 51-71.
28. J. Diamond, *The Rise and Fall of the Third Chimpanzee: Evolution and Human Life* (London: Hutchinson, 1992).
29. In 'non-state' societies the raiding pattern is virtually universal, while the (ritualized) pitched battle is not. Many of these societies, such as the (in)famous Yanomamö, have only raiding in their behavioural repertoire. Others, such as the Maring, have both raids and ritual battles. Many hunter-gatherer and horticulturalist societies even regard battle as a failed raid. On the other hand, in human cultural history and contemporary warfare, battles predominate, but the 'element of surprise' is still highly valued. See H.H. Turney-High, *Primitive War: Its*

- Practice and Concepts* (Columbia: University of South Carolina Press, 1949); A. Gat, 'The Pattern of Fighting in Simple, Small-Scale, Pre-State Societies', *Journal of Anthropological Research*, 55, 4 (1999), pp. 563–83; J.M.G. van der Dennen, 'Ritual Combat, Power Parity, and the Logic of Assessment' (forthcoming).
30. Wrangham and Peterson, *Demonic Males*, p. 130. Until very recently, there has been a serious underestimation of the females' role in primate IAB, as well as in primitive human warfare. War, as 'the great business of mankind', has been mainly conducted by males – with females considered to be the active or passive victims of this male preoccupation – but the (reproductive) interests of females in matters of war and peace are at least as great as those of males.
 31. Turney-High, *Primitive War*, p. 28.
 32. J.D. Bygott, 'Agonistic Behaviour and Social Relationships among Adult Male Chimpanzees' (Ph.D. Dissertation, University of Cambridge, 1974); J.D. Bygott, 'Agonistic Behavior'; J. Goodall, 'Life and Death at Gombe', *National Geographic Magazine*, 155, 5 (1979), pp. 592–621; J. Goodall, *Chimpanzees of Gombe*; J. Goodall *et al.*, 'Intercommunity Interactions in the Chimpanzee Population of the Gombe National Park', in Hamburg and McCown (eds), *The Great Apes* (1979), pp. 13–54.
 33. T. Nishida, 'The Social Structure of Chimpanzees of the Mahale Mountains', in Hamburg and McCown (eds), *The Great Apes* (1979), pp. 73–121; T. Nishida, 'On Inter-Unit-Group Aggression and Intra-Group Cannibalism Among Wild Chimpanzees', *Human Ethology Newsletter*, 31 (1980), pp. 21–4; J. Itani, 'Intraspecific Killing Among Non-Human Primates', *Journal of Social and Biological Structures*, 5, 4 (1982), pp. 361–68.
 34. Manson and Wrangham, 'Intergroup Aggression'.
 35. Bygott, 'Agonistic Behavior'.
 36. Itani, 'Intraspecific Killing' (italics in original); M.P. Ghiglieri, *The Chimpanzees of Kibale Forest: A Field Study of Ecology and Social Structure* (New York: Columbia University Press, 1984); M.P. Ghiglieri, 'Sociobiology of the Great Apes and the Hominid Ancestor', *Journal of Human Evolution*, 16 (1987a), pp. 319–58; M.P. Ghiglieri, 'War Among the Chimps', *Discover*, 8, 11 (1987b), pp. 67–76; M.P. Ghiglieri, *East of the Mountains of the Moon: The Chimpanzees of Kibale Forest* (New York: Free Press, 1988); M.P. Ghiglieri, 'Hominoid Sociobiology and Hominid Social Evolution', in P.G. Heltne and L.A. Marquardt (eds), *Understanding Chimpanzees* (Cambridge: Harvard University Press, 1990), pp. 370–79; M.P. Ghiglieri, *The Dark Side of Man: Tracing the Origins of Male Violence* (Reading: Perseus Books, 1999); Goodall, *Chimpanzees of Gombe*; Goodall *et al.*, 'Intercommunity Interactions'; Manson and Wrangham, 'Intergroup Aggression'.
 37. Goodall *et al.*, 'Intercommunity Interactions'; Wrangham, 'Behavioural Ecology'; see also R.W. Wrangham, 'The Evolution of Coalitionary Killing: The Imbalance-of-Power Hypothesis', *Yearbook of Physical Anthropology*, 4, 2 (1999), pp. 1–30.
 38. A. Kortlandt, *New Perspectives on Ape and Human Evolution* (Amsterdam: Stichting voor Psychobiologie, 1972); A. Kortlandt, 'Ape Models of Incipient Hominid Lifestyles: Chimpanzee or Pygmy Chimpanzee (Bonobo)?' in H. Ullrich (ed.), *Hominid Evolution: Lifestyles and Survival Strategies* (Paris: Editions Archaea, 1999), pp. 25–43; I. Eibl-Eibesfeldt, *Krieg und Frieden aus der Sicht der Verhaltensforschung* (München: Piper Verlag, 1975); Bygott, 'Agonistic Behavior'; C. Vogel, *Vom Töten zum Mord: das wirkliche Böse in der Evolutionsgeschichte* (München: Carl Hanser Verlag, 1989); Van der Dennen, *Origin of War*; Wrangham, 'Coalitionary Killing'.
 39. Ghiglieri, 'Sociobiology'; R.D. Alexander, 'Evolution of the Human Psyche', in P. Mellars and C. Stringer (eds), *The Human Revolution: Behavioral and Biological Perspectives on the Origins of Modern Humans* (Princeton: Princeton University Press, 1989), pp. 455–513.

- 40. Quote is from Ghiglieri, 'Sociobiology', p. 346. On conditions for lethal inter-group violence: Goodall, *Chimpanzees of Gombe*; Ghiglieri, 'Sociobiology'; Ghiglieri, *Chimpanzees of Kibale Forest*; Alexander, 'Evolution Human Psyche'; Manson and Wrangham, 'Intergroup Aggression'; Van der Dennen, *Origin of War*; Wrangham and Peterson, *Demonic Males*; Wrangham, 'Coalitionary Killing'.
- 41. Kawanaka, 'Intertroop Relationships'.
- 42. J. Tooby and L. Cosmides, 'The Evolution of War and its Cognitive Foundations', *Proceedings of the Institute of Evolutionary Studies*, 88 (1988), pp. 1-15.
- 43. Molecular biology, biochemistry and cytogenetics suggest that humans and pongids (the great apes) are close relatives. Wrangham ('The Significance of African Apes for Reconstructing Human Social Evolution') used the method of phylogenetic comparison to identify possible conservative features in social organization of humans and the African apes in an attempt to characterize the hominid-pongid common ancestor. According to this approach, shared features of social organization among humans, chimpanzees, bonobos, and gorillas are likely to have been present in the common ancestor, and can be viewed as part of an 'ancestral suite' of behaviours likely to have characterized hominids (and pongids) at any point in their evolutionary history. From the correspondences in the behavioural repertoires of these species, Wrangham ('The Significance of African Apes for Reconstructing Human Social Evolution'; Wrangham and Peterson, *Demonic Males*) concluded that the last hominid-pongid common ancestor probably had closed social networks (i.e., some degree of ethnocentrism and xenophobia), hostile and male-dominated inter-group relationships with stalk-and-attack interactions (i.e., male coalitional psychology and lethal male raiding), female exogamy and a lack of alliance bonds between females, and males having sexual relationships with more than one female (i.e., polygyny). Wrangham considered territoriality to be too labile a trait (depending on ecological conditions) to attribute it reliably to the common ancestor. If this reconstruction of the hominid-pongid common ancestor is correct, it would mean that lethal male raiding, warfare, is at least five to six million years old. See Wrangham, 'The Significance of African Apes for Reconstructing Human Social Evolution'; R.W. Wrangham, 'Evolution of Social Structure', in Smuts *et al.* (eds), *Primate Societies* (1987b), pp. 282-96; Manson and Wrangham, 'Intergroup Aggression'; Wrangham and Peterson, *Demonic Males*.
- 44. R.W. Wrangham, 'Feeding Behaviour of Chimpanzees in Gombe National Park, Tanzania', in T.H. Clutton-Brock (ed.), *Primate Ecology: Studies of Feeding and Ranging Behaviour in Lemurs, Monkeys, and Apes* (London: Academic Press, 1977), pp. 77-89; R.W. Wrangham, 'On the Evolution of Ape Social Systems', *Social Science Information*, 18 (1979), pp. 355-86; R.W. Wrangham, 'An Ecological Model of Female-Bonded Primate Groups', *Behaviour*, 75, 3-4 (1980), pp. 262-300; C.P. van Schaik and J.A.R.A.M. van Hooft, 'On the Ultimate Causes of Primate Social Systems', *Behaviour*, 85 (1983), pp. 91-117; J.A.R.A.M. van Hooft, 'Sociality in Primates: A Compromise of Ecological and Social Adaptation Strategies', in A. Tartabini and L. Genta (eds), *Perspectives in the Study of Primates* (Cosenza: DeRose, 1988), pp. 9-23; J.A.R.A.M. van Hooft, 'Intergroup Competition and Conflict in Animals and Man', in J.M.G. van der Dennen and V.S.E. Falger (eds), *Sociobiology and Conflict: Evolutionary Perspectives on Competition, Cooperation, Violence and Warfare* (London: Chapman & Hall, 1990), pp. 23-54; J.A.R.A.M. van Hooft and C.P. van Schaik, 'Cooperation in Competition: The Ecology of Primate Bonds', in A.H. Harcourt and F.B.M. de Waal (eds), *Coalitions and Alliances in Humans and Other Animals* (Oxford: Oxford University Press, 1992), pp. 357-90; Cheney, 'Interactions'.
- 45. Wrangham and Peterson, *Demonic Males*, p. 233.

46. R.W. Wrangham, 'Ecological Model', pp. 262-300; Van Hooft and van Schaik, 'Cooperation in Competition'.
47. Van Hooft and van Schaik, 'Cooperation in Competition', p. 378.
48. F.B.M. de Waal, 'Coalitions as Part of Reciprocal Relations in the Arnhem Chimpanzee Colony', in Harcourt and de Waal (eds), *Coalitions* (1992), pp. 233-58.
49. De Waal, 'Coalitions', pp. 251-3.
50. R.C. Connor, R. Smolker and A. Richards, 'Dolphin Alliances and Coalitions', in Harcourt and de Waal (eds), *Coalitions* (1992), pp. 415-55.
51. A.H. Harcourt and F.B.M. de Waal, 'Cooperation in Conflict: From Ants to Hominoids', in Harcourt and de Waal (eds), *Coalitions* (1992), pp. 494-5.
52. A.H. Harcourt, 'Is Social Cooperation More Complex Among the Big-Brained Primates than Among Nonprimates?', in Harcourt and de Waal (eds), *Coalitions* (1992), p. 465.
53. Alexander, *Darwinism and Human Affairs*.
54. Van der Dennen, *Origin of War*.
55. Van Hooft, 'Intergroup competition'; C. Boehm, 'Segmentary "Warfare" and the Management of Conflict: Comparison of East African Chimpanzees and Patrilineal-Patrilocal Humans', in Harcourt and De Waal (eds), *Coalitions* (1992), pp. 137-74.
56. K.F. Otterbein and C. Otterbein, 'An Eye for an Eye, a Tooth for a Tooth: A Cross-Cultural Study of Feuding', *American Anthropologist*, 67 (1965), pp. 1470-82.
57. Kortlandt, *Ape and Human Evolution*.
58. G. Schubert, 'Evolutionary Politics', *Western Political Quarterly*, 36, 2 (1983), pp. 175-93; Goodall, *Chimpanzees of Gombe*; Diamond, *Third Chimpanzee*; Wrangham and Peterson, *Demonic Males*; L. Marchant, 'The Limits of Chimpanzee Charity', this volume.
59. Bygott, 'Agonistic Behavior'.
60. Goodall, *Chimpanzees of Gombe*, ch. 17.
61. Diamond, *Third Chimpanzee*.
62. Goodall, *Chimpanzees of Gombe*.
63. Manson and Wrangham, 'Intergroup Aggression'; Wrangham and Peterson, *Demonic Males*; Wrangham, 'Coalitionary Killing'.
64. Ghiglieri, 'Sociobiology'.
65. A.E. Pusey and C. Packer, 'Dispersal and Philopatry', in Smuts *et al.* (eds), *Primate Societies* (1987), pp. 250-66. See also A.E. Pusey, 'Intercommunity Transfer of Chimpanzees in Gombe National Park', in Hamburg and McCown (eds), *The Great Apes* (1979), pp. 465-80.
66. Wrangham, 'Evolution'.
67. P.S. Rodman, 'Foraging and Social Systems of Orangutans and Chimpanzees', in P.S. Rodman and J.G.H. Cant (eds), *Adaptations for Foraging in Nonhuman Primates: Contributions to an Organismal Biology of Prosimians, Monkeys, and Apes* (New York: Columbia University Press, 1984), pp. 134-60; Wrangham and Peterson, *Demonic Males*, p. 167.
68. Manson and Wrangham, 'Intergroup Aggression'; cf. Wrangham and Peterson, *Demonic Males*; Wrangham, 'Coalitionary Killing'.
69. Tooby and Cosmides, 'Evolution of War'; see also van der Dennen, *Origin of War*, 1995; B.S. Low, *Why Sex Matters: A Darwinian Look at Human Behavior* (Princeton: Princeton University Press, 2000), ch. 13.
70. B.S. Low, 'An Evolutionary Perspective on War', in W. Zimmerman and H.K. Jacobson (eds), *Behavior, Culture, and Conflict in World Politics* (Ann Arbor: University of Michigan Press, 1993), pp. 13-56; Low, *Why Sex Matters*; van der Dennen, *Origin of War*, ch. 4.

71. Wrangham, 'Coalitionary Killing', p. 11.
72. Boehm, 'Segmentary "Warfare"'.
73. C.B. Stanford, 'Chimpanzee Hunting Behavior and Human Evolution', *American Scientist*, 83, 3 (1995), pp. 256-61; see also C.B. Stanford, J. Wallis, E. Mpongo and J. Goodall, 'Hunting Decision in Wild Chimpanzees', *Behaviour*, 131, 1-2 (1994), pp. 1-18; C.B. Stanford, *Chimpanzee and Red Colobus: The Ecology of Predator and Prey* (Cambridge: Harvard University Press, 1998).
74. Kortlandt, *Ape and Human Evolution*; Kortlandt, 'Ape Models'.
75. Kortlandt, 'Ape Models', p. 34.
76. Van Hooff, 'Intergroup Competition'.
77. Eibl-Eibesfeldt, *Krieg und Frieden*; see also discussion in van der Dennen, *Origin of War*, 1995, ch. 3; and Wrangham, 'Coalitionary Killing'.
78. N. Badrian, A. Badrian and R.L. Susman, 'Preliminary Observations on the Feeding Behavior of *Pan paniscus* in the Lomako Forest of Central Zaire', *Primates*, 22 (1981), pp. 173-81.
79. Wrangham and Peterson, *Demonic Males*; Wrangham, 'Coalitionary Killing'.
80. Kano, 'Social Regulation'; Kano, *The Last Ape*; Wrangham and Peterson, *Demonic Males*, p. 207.
81. Kortlandt, 'Ape Models'.
82. F.B.M. de Waal, *Good Natured: The Origin of Right and Wrong in Humans and Other Animals* (Cambridge: Harvard University Press, 1996).
83. Stanford *et al.*, 'Hunting Decision'.
84. J.B. Silk, 'Social Behavior in Evolutionary Perspective', in Smuts *et al.* (eds), *Primate Societies* (1987), pp. 318-29.
85. Silk, 'Social Behavior', p. 327; Wrangham, 'Feeding Behavior'; W.C. McGrew, 'Patterns of Plant Food Sharing by Wild Chimpanzees', in M. Kawai, S. Kondo and A. Ehara (eds), *Contemporary Primatology* (Basel: Karger, 1975); B.M.F. Galdikas and G. Teleki, 'Variations in Subsistence Activities of Male and Female Pongids: New Perspectives on the Origins of Human Labor Divisions', *Current Anthropology*, 22 (1981), pp. 241-56.
86. S. Kuroda, 'Interaction Over Food Among Pygmy Chimpanzees', in Susman (ed.), *The Pygmy Chimpanzee* (1984), pp. 301-24; De Waal, *Good Natured*.
87. D. Gilmore, *Manhood in the Making: Cultural Concepts of Masculinity* (New Haven: Yale University Press, 1990). Gilmore uses studies by T.A. Gregor, *Mehinaku: The Drama of Daily Life in a Brazilian Indian Village* (Chicago: University of Chicago Press, 1977). Gilmore is quoted in P. Slurink, 'Culture and the Evolution of the Human Mating System', in J.M.G. van der Dennen, D. Smillie and D.R. Wilson (eds), *The Darwinian Heritage and Sociobiology* (Westport: Praeger, 1999), pp. 135-62. The main current hypotheses on hunter-gatherer meat sharing are: variance reduction (insurance scheme), tolerated theft, and 'showing off'. The 'showing off' hypothesis was first formulated after Kortlandt by K. Hawkes, 'Showing Off: Tests of an Hypothesis about Men's Foraging Goals', *Ethology and Sociobiology*, 12 (1991), pp. 29-54. Food sharing in hunter-gatherer societies commonly takes the form of 'demand sharing'. See D. Jones, 'Group Nepotism and Human Kinship', *Current Anthropology*, 41 (2000), pp. 779-809.
88. De Waal, *Good Natured*, p. 137; H. Kaplan and K. Hill, 'Hunting Ability and Reproductive Success Among Male Ache Foragers: Preliminary Results', *Current Anthropology*, 26, 1 (1985), pp. 131-3.
89. J. Alcock, *Animal Behaviour: An Evolutionary Approach*, 2nd edn (Sunderland: Sinauer Associates, 1979).
90. It should be clear that accepting the greater or lesser role hunting may have played in hominid/human evolution does not, in any way, imply some kind of 'killer ape'

mystique as propagated by Dart and Ardrey, with hunting and killing prey animals (as well as conspecifics) as the primordial forces shaping human nature. It is only very late in human evolution that unequivocal evidence of hunting turns up. The anatomical evidence of poor adaptation to effective big-game hunting has been collected by E. Trinkaus, 'Bodies, Brawn, Brains and Noses: Human Ancestors and Human Predation', in M.H. Nitecki and D.V. Nitecki (eds), *The Evolution of Human Hunting* (New York: Plenum Press, 1987), pp. 107-45. Also see A.L. Zihlman and N.M. Tanner, 'Gathering and Hominid Adaptation', in L. Tiger and H.T. Fowler (eds), *Female Hierarchies: An Evolutionary Perspective* (Chicago: Beresford, 1979), pp. 163-94; L.R. Binford, *Bones: Ancient Men and Modern Myths* (New York: Academic Press, 1981); L.R. Binford, 'Human Ancestors: Changing Views of their Behavior', *Journal of Anthropology and Archaeology*, 4 (1985), pp. 292-327; A. Kuper, *The Chosen Primate: Human Nature and Cultural Diversity* (Cambridge: Harvard University Press, 1994).

It might be added that nothing might be more ill-suited to the needs of a 'killer ape' than the set of 12 massive, high-crowned, flat 'grinders' possessed by both habilines and australopithecines, and anatomically modern humans. These are, as M. Harris (*Culture, Man and Nature* [New York: Thomas Lowell, 1975]) notes, clearly the dental features of an animal with superherbivore rather than supercarnivore affinities. Furthermore, hunting technology remained rudimentary for millions of years. Foley argued that if the term 'hunter-gatherer' is to mean more than just wild resource omnivory (in which case it would include baboons, chimpanzees and many other animals), 'then early hominids were neither human nor hunter-gatherers' ('Hominids, Humans and Hunter-Gatherers: An Evolutionary Perspective', in T. Ingold, D. Riches and J. Woodburn [eds], *Hunters and Gatherers. Vol. 1: History, Evolution, and Social Change* [London: Berg, 1988], pp. 207-21; 'Hominids, Humans and Hunter-Gatherers', in R.A. Foley (ed.), *The Origins of Human Behaviour* [New York: HarperCollins, 1991]).

In contemporary hunter-gatherer societies (except in high latitudes where plants are scarce), one fifth to one third of the total caloric intake comes from meat, which means that females provide the bulk of the (vegetable) food (e.g. R.B. Lee, 'What Hunters Do for a Living, or How to Make Out on Scarce Resources', in R.B. Lee and I. DeVore [eds], *Man the Hunter* [Chicago: Aldine, 1968], pp. 30-48; Zihlman and Tanner, 'Gathering'; F.B. Musonda, 'The Significance of Modern Hunter-Gatherers in the Study of Early Hominid Behaviour', in Foley [ed.], *The Origins* [1991], pp. 39-51; D.R. Harris, 'Human Diet and Subsistence', in S. Jones, R. Martin and D. Pilbeam (eds), *The Cambridge Encyclopedia of Human Evolution* [Cambridge: Cambridge University Press, 1992], pp. 69-74; M. Gribbin and J. Gribbin, *Being Human: Putting People in an Evolutionary Perspective* [London: Dent, 1993]; F.E. Poirier, *Understanding Human Evolution* [Englewood Cliffs: Prentice Hall, 1993].)

Among agricultural societies, which depend mainly on domesticated crop plants, animal meat contributes still less to the average diet. (Therefore, some have suggested that the term *hunter-gatherer* be replaced by a term more closely mirroring reality, such as *gathering-hunting* or *collecting* societies.)

91. Van der Dennen, *Origin of War*, ch. 5; see also L.H. Keeley, *War Before Civilization: The Myth of the Peaceful Savage* (New York: Oxford University Press, 1996); and Turney-High, *Primitive War*.
92. E. Luard, *War in International Society: A Study in International Sociology* (New Haven: Yale University Press, 1986); J.A. Vasquez, *The War Puzzle* (Cambridge: Cambridge University Press, 1993); J.A. Vasquez (1995), 'Why Do Neighbors Fight? Proximity, Interaction, or Territoriality?', *Journal of Peace Research*, 32, 3

- (1995), pp. 277–94; J.A. Vasquez and M.T. Henehan, 'Why Territorial Disputes are War Prone'. Paper for APLS/ESS Conference, Atlanta, 2–5 September, 1999.
93. Vasquez, *War Puzzle*, p. 293.
 94. Vasquez and Henehan, 'Why', pp. 1–10.
 95. Van der Dennen, *Origin of War*, ch. 8.
 96. P.L. van den Berghe, 'Racism, Ethnocentrism and Xenophobia: In Our Genes or in Our Memes?', in K. Thienpont and R. Cliquet (eds), *In-Group/Out-Group Behaviour in Modern Societies: An Evolutionary Perspective* (Brussels: NIDI CBGS Publications, 1999), pp. 21–36.
 97. W.E. Allen, 'Disturbances in the Dreamtime: A Sociobiological Analysis of Ethnocentric, Xenophobic, and Neophilic Ambivalence in Traditional Subarctic Oral Narrative', Paper for APLS/ESS Conference, Washington DC, 31 August–3 September 2000.
 98. Van der Dennen, *Origin of War*, chs 5 and 8.
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Humankind has always been fragmented into hostile and competitive tribes, and those that found a way of drumming cultural conformity into the skulls of their members tended to do better than those that did not. As for religion, the universalism of the modern Christian message has tended to obscure an obvious fact about religious teaching—that it has almost always emphasized the difference between the in-group and the out-group: us versus them. Religion teaches its adherents that they are a chosen race and their nearest rivals are benighted fools or even subhumans. 'A parochial perspective characterizes most religions', says Hartung (1993), 'because most religions were developed by groups whose survival depended upon competition with other groups. Such religions, and the in-group morality they foster, tend to outlive the competition that spawned them'. It is probably small wonder that monotheism was a product of the world's most belligerent cultures. Genocide (between groups), as one may read in the Old Testament, was as central a part of God's instructions as morality (within the group). It is a rule of evolution to which we are far from immune that the more cooperative societies are, the more violent the battles between them. We may be among the most collaborative social creatures on the planet, but we are also the most belligerent.

- (M. Ridley, *The Origins of Virtue: Human Instincts and the Evolution of Cooperation* [New York: Viking, 1996], p. 193, quoting J. Hartung, 'Love Thy Neighbor: The Evolution of In-group Morality', *Skeptic*, 3, 4 (1995), pp. 86-99.
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Canadian Welfare Policy and Ethnopolitics: Towards an Evolutionary Model

Patrick James

How is ethnic diversity connected to provision of welfare as a public good in Canada? This question might be approached in many ways, but the emphasis of the present investigation will be on the potential contribution of evolutionary theory to an explanation of the contours of welfare policy from Confederation to the present. The basic conclusion is that evolutionary theory can account for the major points of persistence and change in Canadian welfare policy.

Canada is an interesting case study for policy analysis within the context of evolutionary theory because of its ethnolinguistic characteristics. As will be explained later in more detail, evolutionary theorizing attributes great importance to the degree of ethnic heterogeneity in explaining the level of provision of public goods such as social welfare. Canada started out as a diverse entity and has become more so with time, so it represents a nearly polar case for explanation from the standpoint of evolutionary theory. Canadian diversity exists along several dimensions. The French/English dichotomy has been pre-eminent from Confederation onward. Most of the country uses English as its primary language; however, the province of Quebec contains a majority of francophones, but also a significant number of anglophones and so-called 'allophones', who speak English as a language of choice but do not trace their ancestry back to the British Isles.

Waves of immigration, moreover, have produced diversity beyond the mixture of British and French ethnicity that existed in Canada at the time of Confederation. For example, East Europeans figured most prominently among those who populated the West in the late nineteenth century, which reinforced a geographic division that persists even today. Although the primary basis of the cleavage is economic, an ethnic dimension exists as well. In addition, Canada contains an aboriginal population that is distributed across the country, both within reservations and society. In sum, from an ethnolinguistic point of view, Canada represents an interesting mixture of influences on politics in general and social welfare policy in particular.

While other substantive areas ultimately might be explored, it is essential for present purposes to put some boundaries on the meaning of welfare policy. Health and income-maintenance policies will receive pride of place, with some attention to education as well. A review of these major areas

will be sufficient to show the basic properties of welfare policy in Canada.

With respect to evolutionary theory, the emphasis will be on application of kinship theory to the explanation of persistence and change in welfare policy. More specifically, ethnic nepotism will be used as the key concept in accounting for the basic characteristics of welfare policy in Canada.¹ In whatever form it takes, the comparative advantage for evolutionary theory is in explaining ultimate rather than proximate causes.² Thus the analysis will concentrate on evolutionary factors as enabling causes rather than as explanations for specific events at a given time.

This study unfolds in four stages. First, a brief history of Canadian politics will convey basic information that is needed to understand the context of policy issues. The second stage describes major developments in Canadian welfare policy and attempts to sum up basic characteristics. Third, an evolutionary perspective is offered on the points of continuity and change in policy as previously outlined. The fourth and final stage offers conclusions and recommendations for future research.

A BRIEF HISTORY OF CANADIAN POLITICS

Canadian Confederation in 1867 marked both an ending and a beginning. The agreement terminated existence as separate entities for some of the British colonies north of the border with the United States and initiated a process of constitutional development that continues to this day. Confederation represented a pragmatic response to political, economic and military problems faced by the colonies.³ In particular, with the conclusion of the Civil War in the United States, many observers believed that the colonies had to choose between integration with each other or eventual absorption by the dynamic and expanding power to the south. Thus, Confederation came about not as the result of a fully developed way of thinking about a political future within a single community, but instead as an expedient way of answering a series of pressing questions about how to pursue economic development while maintaining autonomy relative to a potential external threat.

Confederation raised more questions about Canadian identity than it answered, because the new entity had been defined largely in opposition to something, namely, the United States. Thus, it became easy for alternative histories to arise about the meaning of Confederation. Canada's major political fault line became Quebec versus what might be called the Rest of Canada (ROC), referring to the other provinces and territories. For those in Quebec, Confederation represented a pact between English and French as nations. Major changes in the rules of the game, therefore, should require the consent of Quebec not just as a province, but also rather as the standard-bearer of the French fact within Canada. By contrast, those in the ROC tended to see Confederation in terms of provincial equality. Quebec existed,

in their minds, as a province like others rather than as an entity with peer status relative to the ROC.

For many decades, fundamental disagreement about the identity of Canada and Quebec's place within it simmered below the surface. Quebec's provincial governments tended to be at odds with the federal government in Ottawa, but the conflict took place within certain boundaries. Social and political conservatism, symbolized by the power of the Catholic Church in virtually all aspects of life in Quebec, effectively prevented rapid change and, to some extent, even economic modernization. The 'best and the brightest' in Quebec tended towards careers in professions such as law, medicine, and the Church. An undercurrent of resentment about exclusion from positions of power in the world of commerce built up and came into the open during the 'Quiet Revolution', which began with the election of the Liberal Party under Premier Jean Lesage in 1960.⁴ The Lesage government and other opinion leaders within Quebec began to articulate the desire for more than just ethnolinguistic survival. In particular, the idea of special status for Quebec within Canada, most notably with respect to control over legislation affecting language and culture, moved to the forefront of the political agenda. This produced an intense struggle for power between provincial governments in Quebec City on the one hand, and federal governments in Ottawa on the other, that continues to the present.⁵

The idea of Quebec becoming a separate state in order to solve its problems with the ROC gained legitimacy within mainstream opinion in the francophone province by the 1970s. In 1976 the Parti Québécois, which had as its mission the ultimate separation of Quebec from the ROC, came to power and passed a series of policies intended to promote the French language and culture. Whether in power or not, the Parti Québécois remains a major force in provincial politics and continues to promote the concept of sovereignty.

Various constitutional initiatives came out of Ottawa from the 1970s onward, each with the intention of resolving or at least controlling the conflict between the ROC and Quebec, while keeping the latter in Confederation. In all instances, regardless of the decision-making forum, the process left at least some participants unhappy about what had happened and willing to fight on into the future for their beliefs. The Victoria Charter (1971), the Constitution Act (1982), the Meech Lake Accord (1987), and the Charlottetown Accord (1992) all contained provisions to resolve or at least control federal/provincial tensions. Despite great efforts by respective federal leaders to build support among elected officials and the mass public, only the Constitution Act, which included a Charter of Rights and Freedoms, came into law. Even in this instance, however, Quebec held out against the Act and worked to undermine its anticipated effects: (a) further development of a national identity built on bilingualism and multiculturalism; and (b) limiting decentralization of federal power.

Later efforts designed to appease Quebec and reduce the negative aftermath of the Constitution Act (1982), such as the Meech Lake and Charlottetown Accords, collapsed under the weight of opposition from governments, interest groups, and the public, which found fault with various provisions in each instance. The consensus of both academic and mass opinion on the matter of constitutional initiatives is that, taken together, they have not even come close to resolving underlying and fundamental problems related to national unity.⁶

By the 1990s, regional tensions had worked their way throughout the political system. Two national elections and Quebec's referendum on sovereignty in 1995 provide the most dramatic evidence of fragmentation during the present decade.

The national election in 1997 reinforced existing divisions by reproducing the essentially regional parliament that had emerged in 1993. The Liberals, under Prime Minister Jean Chrétien, maintained power with a majority built largely on support from Ontario and the Maritimes. The Reform Party (now the Alliance Party), which formed the official opposition, dominated the western provinces but barely existed elsewhere. The Bloc Québécois once again provided the majority of representatives from Quebec but had none in the other provinces. The Bloc continues to pursue an agenda dedicated to greater sovereignty, if not outright independence, for Quebec, sometimes co-ordinating with the Alliance in efforts to decentralize federal power.

Quebec's Parti Québécois government held a referendum in 1995 on sovereignty that narrowly missed achieving a majority. The one-point margin of victory for the 'No' side in the referendum symbolized just how far the process of fragmentation had come over the preceding decades. Sovereignty had not even been a legitimate subject in political discourse three decades earlier, yet now, a provincial government committed to that cause had narrowly missed a mandate to negotiate with the ROC on an equal basis. Nor did the narrow defeat tell the full story of how much things had changed. During the campaign, those opposed to sovereignty had been reduced to talking mostly about the economic risks of leaving the ROC. Appeals to national unity and any over-arching sense of Canadian identity became conspicuous by their absence from the 'No' side's campaign.

THE DEVELOPMENT OF CANADIAN WELFARE POLICY

Regional disparity is the defining characteristic of Canadian political economy. The Atlantic provinces – Nova Scotia, Prince Edward Island, New Brunswick, and especially Newfoundland – have lagged behind the rest of the country in living standards. While generally better off in economic terms, the Western Provinces – British Columbia, Saskatchewan, Manitoba and especially Alberta – have a history of resenting what they view as

excessive control over the Canadian economy by the central provinces of Ontario and Quebec.⁷ In response to this tension, Canadian governments have engaged for a very long time in what are known as 'equalization payments'. These transfers by the federal government are intended to help the poorer provinces provide public services at levels equivalent to those of their wealthier counterparts. The magnitude of the payments is extensive; in 1994/95, for example, 23 per cent of total federal transfers to the provinces took the form of equalization.⁸

Historically, the Great Depression brought the first major turning-point in Canadian social spending. Prior to the difficult economic times of the 1930s, the federal government had a limited role in social programmes. It provided workers' compensation, mothers' pensions, and federal/provincial pensions to veterans and the needy among the elderly. The hardships endured by millions during the Depression reduced inhibitions about 'social engineering' by the federal government. By 1940, the federal government had assumed responsibility for unemployment insurance and federal leadership continued in the development of social welfare policies through the mid-1960s.⁹ Pensions came under concurrent jurisdiction (albeit with provincial predominance) in 1951. In 1964, the Canada/Quebec Pension Plan came into being and went into force across all provinces in 1967. In the health-care sector, the federal government produced a National Health Grants programme in 1948. The Hospital Insurance and Diagnostic Services Act, passed in 1957, enunciated four basic principles about coverage: it must be comprehensive, universal, portable, and publicly administered. Finally, in 1964, Ottawa passed the Medical Care Act, which came into effect in 1967 and established public medical care insurance with a 50 per cent cost share by the federal government.¹⁰

Financing of post-secondary education evolved in much the same way as health care. Beginning in 1952, federal support for post-secondary education took the form of block grants. Each province received a sum of money for operating costs of post-secondary education 'without any detailed conditions or strings attached'. From 1967 until the end of 1977, the federal grants were based on a formula that provided 50 per cent of expenditures.¹¹

Two other important federal welfare programmes came into being during the 1960s. Introduced in 1966, the Canada Assistance Plan (CAP) established that Ottawa would pay 50 per cent of expenditures on social assistance to people identified by the provinces as being in need. In that same year, the Guaranteed Income Supplement transferred extra funds to old age pensioners who failed to meet a certain level of income. The supplement represented an especially major change because the federal government, in effect, had instituted a negative income tax for at least some of its citizens.¹²

By the late 1970s, social spending by the federal government appeared to be out of control. Hospital insurance, Medicare, and post-secondary education had become so costly that a sense of crisis prevailed in Ottawa.

No longer did the federal government see it as feasible to support essentially open-ended spending programmes through a commitment to cost sharing. Thus, in 1977, Ottawa passed the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act (EPF), which set up tax transfers and a cash transfer connected to the gross national product. In order to limit its commitments and discourage drastically increasing provincial outlays that had been driving the upward spiral, the federal government under the EPF no longer committed to a specific share of the cost of welfare programmes.¹³

By the mid- to late-1980s, deficit reduction had become a federal priority. The provinces, however, disapproved of efforts to make significant reductions in means-tested programmes and unemployment insurance. In response to regional concerns, members of the federal cabinet voiced strenuous objections and managed to discourage any decisive actions.¹⁴ Budgetary pressures, however, continued to build in the new decade.

Prime Minister Jean Chrétien's government has taken measures to control spending in the last few years, most notably with respect to social services. The Canada Health and Social Transfer (CHST) in the 1995 federal budget suggested that Ottawa might be moving toward a reduction in its commitment to Medicare, which produced tensions with anxious provincial leaders. The CHST merged the EPF and CAP into one block transfer programme and ended the practice of requiring availability of services to all in need.¹⁵ These changes, however, had only a marginal overall effect on federal spending and served as a reminder of federal reluctance to change course dramatically in the face of likely strong opposition from the provinces.¹⁶ Policy changes seemed more intent on preventing further increases in spending than rolling back entitlements.

While a full telling of the story of Canadian welfare policy would be beyond the scope of this exposition, the preceding history is sufficient to bring out two main characteristics: relatively high spending, and the attainment of what appears to be a maximum economically feasible level of provision.

First, spending increased significantly over a relatively long period and reached levels that are high by the standards of peer states. Canada's level of social spending in the post-World War II era is very high in both absolute and relative terms, even 'generous' in the words of one specialist.¹⁷ Consider, for example, public expenditure on social programmes as a percentage of gross domestic product. Canada attained a level of almost 10 per cent in 1960 and rose to approximately 18 per cent by 1990. In every one of these years it is above the level maintained by the United States and, if anything, the margin appears to have been increasing steadily over time.¹⁸ The figures for 1995, to cite a specific and recent example, reinforce this difference: Canada and the US stand at 23 per cent and 14 per cent of GDP, respectively. The Canadian percentage is above the average for G-7 countries as well.¹⁹

Over the course of a half-century, Canadian social welfare spending increased to what clearly had become a supra-optimal level, at least in terms

of economic efficiency. Consider the breadth and depth of federal activities as summarized by McMillan:²⁰

'The extent of social programs is large. Major social expenditures by the federal government include those for old age security, unemployment insurance, transfers to the provinces to contribute to the funding of social assistance (the Canada Assistance Plan) and the finance of health care and post-secondary education (Established Programs Financing), and transfers to Native peoples, farmers, and the fishing industry. There is also the child tax credit program, which as of 1993 absorbed and superseded the family allowance program. Expenditures on health, education and social assistance dominate provincial budgets. The list could easily be extended by including smaller programs and tax expenditure measures like those for retirement savings.

Because of this vast network of spending programmes, respective federal governments from the late 1970s onward faced both international and domestic pressures to control a rising deficit. By 1994, public sector debt had reached 100 per cent of GDP and ranked second only to Italy among G-7 states. Opinion leaders among investment and bond-rating firms openly expressed concerns about Canada's credit rating around the same time.²¹

A second basic characteristic of social policy in Canada is that the long process of expansion may be giving way to a levelling off, with respect to expenditures, as a result of reaching some practical upper limits. Taxpayer resistance to the pressures caused by increasing social expenditures played an important role in electing neo-conservative governments in the provinces of Alberta and Ontario during the 1990s. Welfare-related expenditures, which accounted for about 50 per cent of overall federal spending, have become conspicuous targets for both financial managers and voters.²² While the federal government has not dismantled the welfare state by any means, pressures to control spending now exceed those that had driven it upward, at least for the foreseeable future.

THE EVOLUTIONARY PERSPECTIVE ON ETHNOPOLITICS AND CANADIAN WELFARE POLICY

Evolutionary theory posits that ethnic nepotism is central to understanding the statics and dynamics of welfare policy. Salter (this volume) articulates a basic question: Can evolved mechanisms of ethnocentrism be circumvented by welfare institutions? Evolutionary theory anticipates that people will be more disposed towards providing support for those they perceive as kin, fictive or otherwise.²³ Thus, within the theory, social spending for those who appear similar to oneself is justified as a positive act in terms of inclusive

fitness. By contrast, the more diverse the society, the less obvious it is that, on average, members of one's own group -- real or fictive -- will be the beneficiaries of welfare-related spending. Therefore, from an evolutionary perspective, the basic hypothesis is that more ethnically heterogeneous societies should feature lower levels of welfare provision because of the role expected for ethnic nepotism in diminishing altruism.

Salter sums up the results of research on social spending (and altruism more generally) as related to ethnic heterogeneity and places it in the larger context of evolutionary theory: 'The negative relation between racial diversity and contribution to public goods might be a more tenacious version of the problem faced by emerging polities, that of inducing families and clans to extend their loyalty to the civic sphere.'²¹

W. Masters and M. McMillan (this volume) also note the consensus among empirical studies that higher levels of diversity ultimately have negative consequences for a society's commitment to welfare spending.²⁵ The findings of Schubert and Tweed (this volume) produce an interesting curvilinear effect with respect to support for the United Way in a sample of localities in the US. A threshold effect appears to exist with respect to the negative effects of diversity on charitable donations. Only when a minority reaches 10 per cent of the overall population is a further increase in its size associated with a decline in altruism as measured by support for the United Way. Two propositions will be put forward on the basis of the logic of evolutionary theory and related research findings about social welfare spending:

1. *General evolutionary welfare hypothesis (GEWH)*: When all significant interacting factors are held constant (most notably, political entrepreneurship), ethnic diversity beyond a threshold level leads to decreases in national per capita spending on social welfare that is likely to produce suboptimal allocations.
2. *Modified evolutionary welfare hypothesis (MEWH)*: Interactions between ethnic diversity and other factors can lead to either decreases or increases in national per capita spending on social welfare.

The GEWH is consistent with the language used by Salter²⁶ and other expositions on evolutionary theory as related to social welfare. The main effect of ethnic diversity, once it reaches a threshold level in which the potential for inter-group rivalry has a chance to be perceived, is to diminish a society's overall disposition toward welfare spending. The logic of ethnic nepotism dictates that the willingness to provide a public good such as income-maintenance, education or health care will be greatest when the probability is high that real or fictive kin will be the recipients.

Existing research also supports the intuition behind the MEWH. At least one of the above-noted research designs incorporated a series of control variables, such as GNP, in order to identify more clearly, to the extent that it exists, the impact of ethnic diversity on welfare spending. To go one step

beyond that specification, consider the potentially important role of interaction effects, which might even have the effect of reversing the apparent impact of ethnic diversity on welfare provision. In particular, political entrepreneurship might create conditions for rivalry among different levels of government. Alternative national projects, paradoxically, might produce the highest level of welfare spending seen anywhere. A federal government could naturally turn to its spending power in order to create a national identity that depends, at least in part, on the provision of public goods. Subnational governments, in turn, might have no incentive to oppose increments in federal spending if they benefit from such allocations as well. Thus, a very diverse country with significant regionalism might be the most obvious candidate of all for supra-optimal rather than suboptimal spending on social welfare.

Each of the propositions about ethnicity and welfare spending points to a different form of distortion. Consider first the GEWH: unaccompanied by political entrepreneurship, ethnic diversity will lead naturally to what in all likelihood is a suboptimal allocation on social welfare. Previous research designs support the idea that a reduced individual disposition to contribute altruistically to the common good is a product of perceived differentiation from many members of the community on the basis of kinship. By contrast, as put forward by the MEWH, the impact of ethnicity runs in the opposite direction when subject to a crucial interaction effect: if political entrepreneurs pursue ethnic mobilization, supra-optimal allocations become much more likely. In a federal system, for example, rival visions of political community may be played out by complementary, yet competing, spending programmes. Put differently, an ethnically diverse state with more homogeneous regions may be disposed to spend far beyond any economically optimal level as a result of tensions between levels of government that are manifested in efforts to 'buy favours' through provision of public goods.

Canada is not an appropriate testing ground for the GEWH. At least one significant interaction effect, that of political entrepreneurship with ethnic diversity, must be taken into account. As established already, in spite of its diversity, Canada experienced significant increases in social welfare spending for a very long time. Moreover, that trend continued while the country became more diverse through waves of immigration and resettlement. This process, however, included an interaction effect, so the GEWH is not falsified; instead, it becomes irrelevant.

With regard to the MEWH, which is relevant to the Canadian case, consider the degree to which welfare spending is regarded as an integral part of national identity; the summary from Banting is quite authoritative on that point:²⁷

In Canada, social programs have been seen primarily as a means of integration across territorial lines. Social programs represent one of the

few spheres of shared experience for Canadians, an important aspect of our lives which is common, irrespective of our language and religion. Moreover, the inter-regional transfers underpinning these programs have represented an affirmation that – despite geography, economics, and demography – we are a single people, with a common set of benefits and obligations.

The connection with earlier themes related to regional disparity and national unity in this passage are obvious. Implicit also is a desire to achieve differentiation from the United States, most notably through commitment to an alternative system of values. Moreover, given the desire to pursue national integration through provision of public goods, it is very revealing that the federal government carried out its spending strategy with cost-sharing tactics. Provincial governments received matching grants and therefore had a long-standing incentive to go along with the federal approach toward public goods provision.

Reinforcing the preceding quotation from Banting is a series of strident observations from a recent academic exposition about the potential impact of social spending limits. Bakker condemns the efforts of Prime Minister Brian Mulroney's Conservative regime from 1984 to 1992 for 'undermining the egalitarian goals of the welfare state and with it the bonds of nationhood and citizenship'.²⁸ Mulroney had attempted, with only limited success, to address the pressures created by debt-servicing costs through placing limits on some kinds of social welfare spending. In looking over the current situation, one in which provincial governments seek limits on federal extraction and spending powers, Bakker adds that '[t]he threat to our government's ability to tax is a threat to Canada's historically generous social welfare and regional assistance programs'.²⁹ It is worth pointing out that, despite the strong words used, Bakker's exposition is in fact quite restrained in comparison with the rhetoric about this subject found in the popular media, past and present.

Canadian welfare policy tends to suggest that the MEWH is viable. The rivalry between political entrepreneurs operating within federal institutions may be just the first in a series of interacting factors that need to be identified in order to explain cross-national differences in social welfare policy as a function of ethnic diversity. Welfare spending increased dramatically in Canada until it encountered upper limits based on economic viability. This is to be expected, since the federal government would have an incentive to believe that the strategy would work, but only at somewhat higher levels of welfare provision. In other words, continuing failure to achieve national unity could be rationalized as a function of inadequate supply of key public goods such as health, income-maintenance, and education. The inability to recognize that further increases in spending would ultimately result in futility does not distinguish federal leaders from the many other people who deal with persistent problems by doing more of what has not worked so far.

Given the amount of time and money already invested in national integration through welfare spending, the federal government's refusal to abandon the strategy until forced into that decision by economic necessity in the 1990s actually becomes quite understandable.

WHERE DO WE GO FROM HERE?

'Social Policy in Canada is in disarray and in a state of flux.'³⁰

Perhaps the best way to complete the connection between evolutionary theory and the Canadian experience with social welfare policy is to point out once again that the spending strategy failed. This result would seem to be consistent with expectations derived from evolutionary theory. The conflict between Quebec and the ROC persisted in spite of federal efforts to spend the country into a new, over-arching identity based on collective altruism. Provincial governments co-operated with exaggerated welfare provision for many decades because cost sharing with Ottawa made it possible to pile up debt and postpone the consequences of fiscal irresponsibility. Only in the last decade, when both internal and external pressures combined to indicate that an upper boundary on debt accumulation grew imminent, did the federal government begin to put limits on new spending. What, then, are the implications of this study for future Canadian policy and the evolutionary perspective on welfare provision?

The outlook in the Canadian context is bleak. Decades of overspending have not produced a higher degree of national integration. Instead, as might be expected, provincial and federal governments are at odds over how to deal with the fall-out from long-term supra-optimal provision of various public goods. It almost goes without saying that such conflict is only exacerbating regional tensions that already exist. The national parliament is now almost fully 'balkanized', which suggests that the process of national disintegration is already at, or approaching, the point of irreversibility. It is ironic that decades of profligate spending, symbolized by equalization payments and a wide range of other inefficient practices, serve to limit the federal government's current room for manoeuvre in trying to address regional concerns.

With respect to evolutionary theory, this study has produced two hypotheses about social welfare spending and offered some impressionistic evidence about each of them. While prior evidence strongly supports the idea that ethnic nepotism dampens welfare provision once ethnic diversity passes a relatively modest threshold, there is more to the story than this. Interaction effects can reverse the apparent impact of a causal factor such as ethnic diversity. In particular, the activity of political entrepreneurs within the federal structure of Canada appears to have interacted with

ethnic diversity to produce an outcome that is truly ironic and perverse. To return to Salter's expression of concern about ethnocentrism and welfare provision, the problem here is not too little spending but instead too much.³¹

The unfortunate experiences of successive Canadian federal governments suggest that constitutional limits on deficit spending may be essential to protect against forces that transcend the occasional urge toward 'pump priming' as elections approach. As a point of comparison, consider the classic story of Charles Ponzi, who in 1920 made an estimated \$15 million off the residents of Boston in the following manner:

Ponzi claimed to have found a way to profit by speculating in international postal reply coupons – a form of prepaid return postage for use in foreign correspondence. After he had paid off his first round of investors... he scarcely had to repeat his story. All that anyone cared about was that he paid 50 percent interest in 70 days. Later, he shortened the investment period to 45 days. In no time, the money was rolling in. 'At the height of his success, Ponzi had offices from Maine to New Jersey.' The problem... was that there was no actual investment going on; the only activity was the shuffling of money from new investors to old. This kind of swindle, borrowing from Peter to pay Paul, is also known as a pyramid scheme or – since 1920 – a Ponzi scheme.³²

The comparison of welfare spending in Canada with a Ponzi scheme is not an exact one, but uncomfortably close to the mark. A steady flow of income from the federal government to the provinces, leveraged against Canada's future, helped to stabilize a fundamentally divisive union of political entities. However, when the pyramid of pay-offs could no longer continue because of forces beyond the control of the federal government, underlying political tensions broke through dramatically to the surface and dominated the agenda.

Consider the long-term results of the preceding process. Today, Quebec is governed by a re-elected separatist government. The threat of another referendum on sovereignty looms large. Talk continues, accompanied by little optimism, about renewed constitutional negotiations. In sum, when money gets tight, people fight.

Based on the Canadian experience, throwing money at ethnolinguistic tensions is a tempting course of action, but one that is ultimately doomed to failure. Ethnolinguistic conflicts, it would seem, cannot be resolved through pork barrel politics in either the short or long term. The best system, in all likelihood, is one in which political leaders avoid group mobilization based on ethnicity. Few examples in history, if any, would seem to point in the opposite direction from this general conclusion.

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NOTES

1. The best recent exegesis of ethnic nepotism theory is by F. Salter, 'A Defense and Extension of Pierre van den Berghe's Theory of Ethnic Nepotism', in P. James and D. Goetze (eds), *Evolutionary Theory and Ethnic Conflict* (Westport: Praeger, 2001). See also P.L. van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, North Holland, 1981). The concept of inclusive fitness, which emphasizes the role of natural selection in favouring the propagation of genes that dispose organisms to behave altruistically toward others who have a high percentage of like genes, plays a central role in the theory (Hamilton, 1964).
2. P. James and D. Goetze, 'What Can Evolutionary Theory Say about Ethnic Phenomena?', in P. James and D. Goetze (eds), *Evolutionary Theory and Ethnic Conflict* (Westport: Praeger, 2001).
3. R.H. Wagenberg, 'The Canadian State and Canadian Politics', in K.G. Pryke and W.C. Soderlund (eds), *Profiles of Canada*, 2nd edn (Toronto, Canada: Irwin Publishing, 1998), p. 134.
4. R. Bothwell, *Canada and Quebec: One Country, Two Histories* (Vancouver, Canada: University of British Columbia Press, 1995).
5. Wagenberg, *Profiles of Canada*, p. 136.
6. See M. Lusztag, 'Constitutional Paralysis: Why Canadian Constitutional Initiatives Are Doomed to Fail', *Canadian Journal of Political Science*, 27 (1994), pp. 747-71; M. Lusztag, 'Canada's Long Road to Nowhere: Why the Circle of Command Liberalism Cannot be Squared', *Canadian Journal of Political Science*, XXXII (1999), pp. 451-70. Also see P. James, 'The Chain Store Paradox and Constitutional Politics in Canada', *Journal of Theoretical Politics*, 11 (1996), pp. 5-36; and P. James, 'Rational Choice? Crisis Bargaining over the Meech Lake Accord', *Conflict Management and Peace Science*, 16 (1999), pp. 51-86. Other efforts to explain the ongoing processes of failed constitutional reform include R. Bothwell, *Canada and Quebec*; P. Fournier, *A Meech Lake Post-Mortem: Is Quebec Sovereignty Inevitable?* (trans. Sheila Fischman) (Montreal and Kingston: McGill-Queen's University Press, 1991); P.H. Russell, *Constitutional Odyssey: Can Canadians Be a Sovereign People?* (Toronto, Canada: University of Toronto Press, 1992); and K. Valaskakis, *Canada in the Nineties: Meltdown or Renaissance?* (Montreal: Gamma Institute Press Ltd, 1990).
7. Ontario and Quebec, the two most populous provinces, can effectively dominate national elections and often have combined to do so, although normally with significant support from at least a few other provinces. While the point could be argued at length, Quebec and Ontario are seen by many residents of the other

- provinces and the territories as being economic beneficiaries of long-standing political hegemony.
8. W.W. Joyce and R. Beach (eds), *Introducing Canada* (Washington, DC: National Council for Social Studies), p. 86.
 9. C. Tuohy, 'Social Policy: Two Worlds', in M. Atkinson (ed.), *Governing Canada: Institutions and Public Policy* (Toronto: Harcourt Brace Jovanovich Canada Inc., 1993), p. 287.
 10. J.P. Boase, 'Social Security to Social Insecurity,' in Pryke and Soderlund, *Profiles of Canada*, pp. 200-1.
 11. R. Dyck, *Canadian Politics: Critical Approaches*, 2nd. edn (Toronto: Nelson Canada, 1996), p. 78.
 12. Boase, 'Social Security to Insecurity,' p. 202.
 13. G.E. Carter, 'Financing Health and Post-Secondary Education: A New and Complex Fiscal Arrangement', in G. Stevenson (ed.), *Federalism in Canada: Selected Readings* (Toronto: McClelland & Stewart Inc., 1989), p. 436; Boase, 'Social Security to Insecurity,' p. 202.
 14. Tuohy, 'Social Policy: Two Worlds,' p. 301.
 15. D. Cohn, 'The Canada Health and Social Transfer: Transferring Resources or Moral Authority between Levels of Government?', in P.C. Fafard and D.M. Brown (eds), *Canada: The State of the Federation 1996* (Kingston: Institute of Intergovernmental Relations, 1996), pp. 169, 175.
 16. Cohn, 'The Canada Health and Social Transfer'; T.R. Snoddon, 'The Impact of the CHST on Interprovincial Redistribution in Canada,' *Canadian Public Policy*, XXIV (1998), pp. 49-70.
 17. I. Bakker, 'The Politics of Scarcity: Deficits and the Debt,' in M.S. Whittington and G. Williams (eds), *Canadian Politics in the 1990s* (Scarborough: Nelson Canada, 1995), p. 65. Only one source could be located that dissents, at least in part, from the consensus that social spending in Canada is high. Tuohy, 'Social Policy: Two Worlds,' p. 292, asserts that income-maintenance interests are only marginally mobilized in comparison with those that are health-related, which in turn has produced persistent differences in how governments have handled the respective policy arenas. The relatively lower levels of spending on income maintenance, however, are more than balanced by spending on health and other areas of welfare that combine to keep Canada above the norm in comparison to both the US in particular and the Organization for Economic Co-operation and Development (OECD) in general.
 18. Boase, 'Social Security to Social Insecurity,' p. 204. Boase reports these figures from the OECD.
 19. Joyce and Beach, *Introducing Canada*, p. 82.
 20. M. McMillan, 'Economic Threats to National Unity: From Within and Without,' in K. McRoberts (ed.), *Beyond Quebec: Taking Stock of Canada* (Montreal and Kingston: McGill-Queen's University Press, 1995), p. 287.
 21. Boase, 'Social Security to Social Insecurity,' p. 205.
 22. McMillan, 'Economic Threats to National Unity,' p. 287; Boase, 'Social Security to Social Insecurity,' pp. 212-13.
 23. Evolutionary theory is generally consistent with the primordial interpretation of ethnicity. Ethnic identity, from this perspective, supersedes instrumental concerns and continues to be relevant even in the face of supranational economic integration. The most sustained and effective application of primordialism as a concept to the analysis of inter-ethnic co-operation and conflict appears in J. Stack, *Ethnic Identities in the Contemporary World* (Westport: Greenwood Press, 1981); J. Stack (ed.), *The Primordial Challenge: Ethnicity in the Contemporary World* (New York: Greenwood Press,

- 1986); J. Stack, 'The Ethnic Challenge to International Relations Theory', in D. Carment and P. James (eds), *Wars in the Midst of Peace: The International Politics of Ethnic Conflict* (Pittsburgh: University of Pittsburgh Press, 1997).
24. Frank Salter, 'Symposium Idea', unpublished manuscript quoted in the introductory chapter to this volume.
 25. The most widely accepted studies appear to be R.E. Hero and C.J. Tolbert, 'A Racial/Ethnic Diversity Interpretation of Politics and Policy in the States of the US', *American Journal of Political Science*, 40 (1996), pp. 851-71, and M. Gilens, '"Race Coding" and White Opposition to Welfare', *American Political Science Review*, 90 (1996), pp. 593-604, which suggest that hostility to ethnic minorities plays a major negative role in provision of social welfare benefits. This finding is given further credibility by the results obtained by Sanderson (this volume). On the basis of a sample of 121 states, welfare spending appears to be linked negatively to ethnic heterogeneity when controls are included for the standard positive factors: GNP, labour unionization, and level of democracy.
 26. Salter, 'Symposium Idea'.
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Why Welfare States Rise – and Fall: Ethnicity, Belief Systems, and Environmental Influences on the Support for Public Goods

Roger D. Masters

I. INTRODUCTION

This conference seeks to apply the concepts and theories of evolutionary biology to the analysis of contemporary welfare states. This task is more difficult than it might seem because the study of human cultures from the perspective of neo-Darwinian biology needs to satisfy at least three requisites:

- First, theories and hypotheses derived from neo-Darwinian biology and applied to contemporary human societies should be based on the evolved characteristics of *Homo sapiens*. Altruistic behaviour directed to unknown and non-reciprocating non-kin is contrary to the generally accepted theories and observed social behaviour of primates (and indeed of mammals more generally). In so far as the welfare state entails actions or transfers that meet the formal definition of altruism, they are problematic even when the recipients share a cultural identity (be it national, ethnic, or religious).
- Second, an evolutionary perspective should be dynamic or historically oriented.¹ Whether applied to human culture or to the biology of other species, evolution is a process of change. Static models are useful as heuristic devices to explore the salient variables underlying dynamic processes, but the latter should never be forgotten when working out the former. Since the predictions of inclusive fitness theory and the human species' typical behaviours do not vary within the time-frame of political history, this requisite suggests that environmental factors should play a central role in an evolutionary approach to the rise and fall of welfare states.
- Third, a neo-Darwinian approach to the political economy of the modern welfare state should be both empirically testable and capable of generating novel insights. Economists and political scientists alike can point to problems in securing public support for collective goods and redistributive social policies; to explain human selfishness, one need not refer to elaborate theories of inclusive fitness. Does biology teach us anything new?

More importantly, without the possibility of empirical test, there is little value in evolutionary hypotheses (whether they claim to explain commonplace observations or to reveal unsuspected relationships).

Why are these three requisites difficult to meet? Consider the proposition formulated by Frank Salter when setting out the frame of reference for this meeting: 'From an evolutionary perspective, one should expect welfare systems to be more difficult to develop and maintain in ethnically heterogeneous societies than in more homogeneous ones.' The substance of the statement seems eminently reasonable, if not self-evident. Alas, from the perspective of neo-Darwinian biology, virtually every term in Salter's statement is theoretically or empirically problematic.

A 'welfare system' is but one feature of a modern government or centralized state. However, before we can identify the tensions and conflicts specific to the welfare state, a broader question needs to be answered. For millions of years, primates – including our hominid ancestors – lived in bands or extended kin groups rarely numbering over 200 individuals. Why did states arise, and how could they extract and redistribute material resources so that non-kin benefited from the coerced or voluntary contributions of their fellow-citizens? Before we can explain the constraints and motivations underlying the modern welfare state, it is necessary to give an evolutionary account of the rise – and fall – of states as such.

Similar difficulties surround the other terms of reference. At the psychological level, what is 'altruism' – or, to use a more formal definition, helping behaviour directed toward unknown, non-reciprocating non-kin? When the beneficiaries of helping are kin, many biologists contest the term 'altruism', since the actor is indirectly furthering the propagation of genes shared by descent. Even if this objection is dismissed, is an extension of co-operation to potential genetic competitors possible without a conscious intention to benefit the recipient? Is the actor's motivation relevant – and if so, how does it explain behaviours whose consequences often contradict stated intentions? Also, if welfare is defined as an altruistically motivated redistribution of resources, how could such disinterested behaviour emerge in a species whose sexual reproduction precludes the bases of co-operation found among some haplo-diploid insects?

Finally, from an evolutionary perspective, what is an 'ethnic' group? Clearly, the term does not include every collection of humans described as having a common historical or cultural origin: we distinguish ethnic groups from religions (Islam, Hinduism, Christianity, and the like) and political communities (marked by the existence of common government, geographical boundaries, and rules). However, ethnic groups, while perceived as sharing a common 'biological' or genetic kinship of some sort corresponding to a culturally defined 'recognition marker',² are themselves not entities at a level defined by contemporary evolutionary biology.

Given these conceptual and theoretical problems, it will not be easy to address the dynamics of the contemporary welfare state and ethnicity from an evolutionary perspective. I will argue, however, that the difficulties are reduced by focusing on two apparently unrelated phenomena: first, the ecological factors that modify the costs of co-operation and helping behaviour, and second, the psychological factors that modify the expectations of benefits to be derived from contributions to the centralized state. On this basis, I suggest, it should be possible to develop empirically testable hypotheses about the rise and fall of centralized states.

On this basis, I will argue that opposition to welfare expenditures that benefit members of heterogeneous ethnic groups is to a large degree a secondary factor, resulting from the underlying processes that shape human social institutions rather than an independent 'cause'. In this view, ethnic conflict is often a rationalization in response to deeper (and frequently unconscious) factors limiting a willingness to contribute to collective goods. In other words, hostility to ethnic out-groups is a 'socially constructed' cultural mechanism for reducing the scope of those benefiting from public policies, and not a primordial or 'natural' factor impinging on contemporary politics.

To state my hypotheses in more detail, I will argue that:

1. A formal model of the centralized state indicates that some form of 'fictive kinship' seems necessary to support the emergence of coercive public institutions capable of extracting resources and devoting them to either collective goods or socially redistributive policies. In so far as ethnic categories are historical or social 'constructions', from an evolutionary perspective they need to be explained, and cannot be accepted as primarily biological categories. If so, the concept of 'ethnicity' as used in contemporary politics is a behavioural outcome (and not a cause) of changing dispositions to contribute to a centralized nation-state. The central issue is thus support for the use of governmental authority to extract and redistribute resources, and not the ethnic or racial categories viewed as undeserving beneficiaries of social policy.
2. Two key factors underlie the willingness to form and support centralized states that extract resources from their members: potential costs arising from competition between societies (the threat that foreign societies will unleash military attack or pre-empt access to economic resources), and potential benefits arising from co-operation within one's own society (the hope that economic and social change will be mutually beneficial). Both of these factors are, among humans, largely based on temporal comparisons and expectations. This reinforces the argument that, in a contemporary nation-state, genetic heterogeneity is not itself a major factor in 'causing' changes in support for welfare policies. Rather, hostility to out-groups (be they ethnic, religious, linguistic, or cultural) is a rationalization and justification of dispositions arising from other sources.

3. Changes in the physical, technological, and cultural environment play an essential role in assessments of the net benefits that will accrue from contributions to a centralized state apparatus. Many critical variables are generally ignored in discussions of dispositions to support the welfare state and its transfers of resources to less favoured groups. Among these variables are: (a) predictability of climate (and the variations in agricultural output it entails); (b) rates of technological change (which, if too rapid, threaten those sectors of society least suited to adapt to the shifting modes of economic and social interaction); (c) demographic patterns (and most especially, the proportions of the population above and below the age-grades engaged in productive and reproductive activity); (d) the extent of geographical mobility within and between societies (which provides opportunities for change and a willingness to take higher risks for the future); and (e) the religious belief system (which sometimes provides transpolitical – and typically non-material – alternatives for assessments of the future).
4. The rise of the welfare state in the post-World War II era, as epitomized by the acceptance of the 'Great Society' in the United States, coincided with a period of relatively favourable climate, highly efficient changes in productive technology, and unusual geographical mobility. The baby boom created optimistic attitudes toward the future, and many religious denominations oriented to this-worldly charity and ecumenical co-operation rather than doctrinal rigidity and evangelical passion. Support for the Great Society was reinforced by the external threat of the Cold War competition between East and West, and by the domestic optimism that accompanied the development of new markets to serve the many novel goods and services. The internal aspect of this dynamic was further encouraged by the unprecedented prolongation of individual life expectancy. Since 1950, therefore, societies in western Europe and North America have been dominated by optimistic assessments of the future that provided support for extensions of the welfare state.
5. The favourable configuration of the last half-century seems at an end. Signs of distrust for the distribution of welfare to ethnic outsiders are but one of many indications of a major shift in psychological assessments. The return of religious enthusiasm – and with it, hostilities between religious communities; the declining respect for political institutions and leaders of all persuasions; particularistic challenges to the national government from regional and linguistic, as well as ethnic, groups; the fear of centralized bureaucracy: these and other widely observed social responses all promise to undercut the capacity of centralized nation-states to engage in redistributive welfare policies.

Each of these five propositions deserves attention. The remainder of this paper is organized around them. In Section II of this paper, I will outline a

theoretical model of the centralized state that indicates the conditions in which expansion of welfare policies can be expected to occur. Then, in Section III, I explore the psychological mechanisms underlying changes in support for the welfare state. Section IV outlines briefly the reasons to direct attention away from ethnic conflict as a primary cause and toward factors in the physical, technological, and geographic environment of human social interaction. Finally, in Section V, I will use this approach to explore the exceptionally favourable attitudes toward the welfare state in the post-World War II era in the United States (and in post-Victorian society in England), as well as the reasons for asserting that we confront an epochal change in deep feelings and attitudes about centralized government and the very concept of a welfare state.

II. A BIOLOGICAL MODEL OF THE CENTRALIZED STATE

Despite the caveats noted above, it is becoming clear that the emergence of centralized states can be explained in terms of evolutionary biology.³ Although inclusive fitness theory would seem to militate against co-operation with non-reciprocating and/or unknown strangers, fictive kinship changes the calculus in a significant but often complex manner. In the simplest case, the issue can be illustrated by the matrices of a single-play, two-person Prisoners' Dilemma. Typically, the constraints on co-operation are illustrated by the advantage of the defect strategy in this model.⁴ If the two players are brothers or parent and offspring, however, with a coefficient of relatedness of 0.5, it will often – though not always – be advantageous to co-operate.⁵

The lesson of this comparison is twofold. First, perceived kinship probably matters a great deal more in social co-operation than has been realized in the conventional literature in the social sciences. Second, where interacting individuals perceive they are kin, the implications for behaviour depend not only on the extent of kinship (the closer the relationship – i.e., the higher the coefficient of relatedness – the greater the incentive to co-operate), but also on the ratios of pay-offs. This last point is subtle, but extremely important.

In the standard one-shot Prisoners' Dilemma, the four outcomes have a linear relationship that does not depend on the ratios between them. The outcome is the same whether joint defection (i.e., the condition of maximum punishment) is twice as costly as being the sucker (i.e., co-operating when your partner defects) or only slightly more costly. Once kinship is considered, this is no longer the case, and relative outcomes can change the game from co-operative to competitive and back again.

These considerations are essential if one is to apply evolutionary theories of social behaviour to the societies and governments observed among humans. To see why this is so, one need only extend co-operative models

from artificial two-person situations to the *n*-person case where co-operation within the group may be beneficial due to competition between rival groups. In the *n*-person, between-group situation, pay-offs for within-group co-operation will be greater if that group is larger than (and hence likely to defeat) rival groups seeking to control an environmental resource. Consider, for example, two bands of hunter-gatherers, only one of which can use a desirable water-hole. If the larger group is likely to beat the smaller, a member of the smaller group can benefit by defecting, even if his share of the larger group's winnings is smaller than his expected share in the smaller group. Hence, both pay-off and group size need to be seen as variables, not as the constants built into the standard two-person Prisoners' Dilemma we have all used to illustrate the problem of co-operation and helping.

Kinship can, of course, play an important role in this regard. If potential new members of one's group are seen as kin, accepting them as collaborative partners would seem to encounter fewer obstacles than if total strangers are being recruited. Conversely, an unrelated outsider wishing to join a group might be well advised to invent kinship if other grounds for acceptance are lacking. In short, as soon as models of co-operation and competition include perceived kinship between potential or actual partners, we can readily see that fictive kinship can have multiple advantages for unrelated or distantly related individuals who can thereby increase net gains through co-operation.

Extensive data in cultural anthropology confirms the ubiquity of such mechanisms among hunter-gatherer and agriculturalist tribes, particularly where they are organized in local bands or villages without a centralized bureaucracy or state system. Individual relations of reciprocity are often reinforced by accounts tracing membership in a linguistic or cultural group to a distant, if not fictional, ancestor. More important, kinship categories create a nested series of affiliative groups, creating options for the identification that best satisfies an individual's interest in any momentary encounter.

The structure involved is clearest in the societies that anthropologists call 'segmentary lineage systems'. Epitomized by such cultures as the Nuer of the Sudan,⁶ local groups in these societies are structured around a hierarchy of supposed descent groups. Nuclear families in a village may enter into conflict on some issues, but co-operate against supposedly different lineages; these lineages can, in turn, co-operate if there is a dispute with distant clans.⁷ In such systems, each level of kinship or ethnic identification needs to be understood as a resource, to be called upon or ignored depending on circumstances.

From the perspective of such societies, as from evolutionary biology more generally, centralized societies are difficult to establish. If segmentary lineage systems have leaders, their authority is typically temporary and limited (as with the Leopard-skin Chief among the Nuer). Collective goods seem to have few benefits, since members of any single kin-group must assume that rivals will seek to pre-empt them. Hence, for the anthropologist as for the

evolutionary biologist, the emergence of states has long been seen as a puzzle, if not *the* most difficult puzzle in human history.

Despite extensive archaeological and historical research, the precise origins of the first centralized (or so-called 'pristine') states remain shrouded in mystery.⁸ It was long assumed, for example, that the states followed a period of urbanization due to the shift from hunting-gathering to agriculture. Oddly enough, some recent findings suggest that the earliest urban settlements at the confluence of the Tigris and Euphrates antedate the transition to agricultural food production. It is easy to see how, once begun, the formation of the first states lead to the conquest of neighbouring populations that were unable to form similar social structures capable of effective defence. Whether due to internal co-operation or external competition, however, there is good evidence that individual leadership was often critical to success. In all probability, therefore, state systems first arose through a dynamic interaction of benefits from larger-scale economic and social integration within societies, competition between societies, and effective leadership.⁹

Whatever the causes of state formation, the archaeological record confirms the hypothesis, based on evolutionary theory, that new belief systems arose along with new social institutions. Burial sites show an increased concern for the well-being of the dead in some after-life. They also reveal differential treatment based on social status. Those with wealth and power, especially if buried with artefacts and symbols of royal status, were interred with material goods (and often with the bodies of servants or subordinates), whereas ordinary individuals had a simpler burial. While the state thus clearly provided an excess of resources compared with earlier epochs of hunter-gatherer existence, it also generated differences of social class that seem related to the emergence of highly articulated, future-oriented belief systems. Most specifically, sacred symbols of animals or gods accompany the bodies of those with high status, promising them, in some way, future benefits as a reward for their earthly activity.

From ancient mythology, we know something of the myths and beliefs of many early civilizations. One characteristic is the increased role of an ancestral figure from whom the community is thought to have descended. Epitomized by the figure of Abraham in the Hebrew Bible, the belief in a heroic or superhuman founder entails a belief in common ancestry and hence common kinship within the emergent state. Such kinship often does not extend to lower classes, whose obedience may have been based on conquest or coercion. However, from the first, it would appear that the state as a system of co-operation and coercion is based, in part, on beliefs of common ethnic origin.

For an evolutionary biologist, however, these belief systems need to be explained as behaviour. The emergence of a concept of life after death, or the claim that all members of a society share the blood of a distant founder, cannot be treated as a cause without implying the creation *ex nihilo* of

radically new beliefs and behaviours. This follows most especially because the models of social behaviour indicate that, without strong benefits, a fictive kinship system (especially if socially stratified) entails co-operation with non-kin under circumstances that, over preceding millennia, led to defection and conflict.

The theoretical models derived from inclusive fitness theory are thus consistent with empirical evidence on one central point. The belief in common 'ethnic' or biologically based bonds underlying the emergence of a state is hardly sufficient to explain the causes of centralized states and governments. Rather, such beliefs are predictable consequences of social co-operation on a broader level than was possible among hunter-gatherers, scavengers, or even incipient agriculturalists. If so, an evolutionary approach to the origin of human states points to ethnicity as epiphenomenon or secondary factor, lending legitimacy to behaviours whose benefits derive from other factors.

III. THE PSYCHOLOGICAL FOUNDATIONS OF COLLECTIVE WELFARE

In studying pristine states and other early political institutions, archaeologists and anthropologists have uncovered a variety of patterns. No single set of empirical circumstances explains all early states. Not only are secondary states different from the earliest, or 'pristine', states in each geographic region, but any single community seems to go through a series of transformations. Sometimes, as with the urban communities of the *Anastazi* in the American south-west, the process of state formation comes to an abrupt end prior to the full emergence of centralized political institutions. In other cases, what appear to have been simpler, non-militaristic states develop more rigid social classes and castes, military forces, and expanded power over neighbouring populations.

It would seem, therefore, that it is impossible to find a single set of material factors that explain the willingness of the members of early states to pay taxes and contribute to collective goods. Yet the behaviour of our first 'civilized' ancestors is crucial, for we know they paid taxes – and that payment of taxes was a matter of record, suggesting that support for the system required formal, impersonal recognition. Indeed, the first 'written' records seem to be the receipts for tax payments in the form of crops. This archaeological fact is worth reflection.

In face-to-face hunter-gatherer bands, reciprocity is based on reputation, friendship, and individual memory. In early states, individuals or kin-groups provide or store food in collective granaries. Officials responsible for these collective goods obviously benefit with power and status. Why, then, would the other members of the community contribute taxes to the welfare state? The fact that their contributions were recorded on clay tablets suggests that

the informal memory of reciprocal altruism was not sufficient to motivate obedience. (Those who doubt the fact need only reread the biblical account of Moses in Egypt.)

It follows that the willingness to contribute to collective welfare required, from the first, new psychological dispositions. Without these dispositions, it can be wondered whether productive technology, military strength, or political leadership would have led to the emergence and spread of centralized states. In general terms, the benefits of obedience and payment of taxes, not to mention service in the military, had to exceed the costs of these novel behaviours. Two specific areas seem most likely to have been important.

First, it can be hypothesized that the benefits of social co-operation within a larger group than the hunter-gatherer band (or even an association of bands in a tribe) exceeded the costs. New capacities for the production or storage of goods and services must have arisen. But how could such developments motivate obedience to a state (especially if its leaders were reproductive rivals) and contributions to the public welfare (tax payments that could benefit individuals who are not close kin)? Only, it would seem, through an extension of psychological expectations to the future.

Hope in future benefit can justify short-term sacrifice or investments that would otherwise not occur among primates. For those of lower social class, obedience to rulers and tax payments entail a relative loss of status in the present. As long as absolute conditions allow survival, extension of the time-horizon to consider future benefit allows otherwise costly co-operative behaviours to produce a net benefit.

A second and parallel factor arises from between-group competition. If different social groups compete for non-divisible resources, such as desirable land or natural resources, the benefits of forming a state are reinforced by the fear of future losses to rivals. Among hunter-gatherers and small-scale agriculturalists, continued skirmishes are often necessary to protect crops and fields. While some cultural anthropologists would like to picture early humans as living in a pacific 'state of nature' like that imagined by Rousseau, the natives of Hispaniola killed the sailors whom Columbus left behind after his first voyage. Even amongst themselves, the aborigines of the New World engaged in between-group violence before contact with Europeans, as is clear from Amerigo Vespucci's report of his first contacts with the peoples on the continent which ultimately took his name. Once states begin to form, therefore, the practices of between-group conflict generate new benefits for social co-operation – and new fears of the costs of failure to do so.

When social classes took form, the emergence of warriors created both a problem (since they had to be supported by the tax payments of the producing classes) and a potential benefit (since they could not only protect the emerging state from rivals, but conquer other populations and enslave them). The obvious motivational basis for assessing such changes would have

been the extension of the calculus of cost and benefit into the future. Support for élites, obedience to their rules, and payment of taxes could be accepted if future benefits outweigh present costs; and since the future benefits accrue to a large number of unrelated, unknown individuals, the ideologies of the state typically entail some form of fictive kinship.

Elsewhere, I have developed in detail the model on which this argument rests. It is based on two concepts. First, the emergence of a parallel assessment of future as well as present costs and benefits from social interaction (or what, following Michael McGuire, I have called the ratio of the 'value of the future' to the 'value of the present'). Symbolized as V_f/V_p , this ratio can be used to develop models that explain the contribution to collective welfare, including payments that enhance the benefit of reproductive rivals. Second, the crystallization of some form of fictive kinship, defining members of the group most likely to benefit from the emerging state as kin – or at least as 'naturally' different from all outsiders, and hence, effectively, as something similar to distant relatives.

While the hostility to out-groups – however they might be defined – is characteristic of hunter-gatherers or agriculturalists without centralized states, the emergence of a centralized state provides a strong reason for enlarging the scope of fictive kin-groups and increasing the hostility to those outside them. Hence, states expanded the scale of a population whose common identity is supposed to derive from genetic or biological origins. What we call an 'ethnic' group is to a large degree the product of states and the social conventions, which they create or foster, not an independent cause.

This account of the emergence of belief systems defining larger kinship groups is consistent with the data linking linguistic and genetic relatedness. As Cavalli-Sforza has shown, the evidence contradicts the prevailing model of cultural evolution based on information diffusion and imitation cutting across genetically diverse groups. Gene frequencies tend to form clines that provide a geographic record of population flows and cultural conquests. Humans moved, created social systems, and either replaced or intermarried with indigenous populations.¹⁰ The resulting patterns do not coincide with the contemporary definitions of 'ethnic groups', so we must admit that the belief systems dominating our own perceptions of the world are as much a reflection of political history as were the ancestral cults of the early Sumerians and Egyptians.

IV. ENVIRONMENTAL, TECHNOLOGICAL AND CULTURAL FACTORS SUPPORTING THE WELFARE STATE

The preceding analysis has sought to establish a negative proposition: the populations that are today defined as 'ethnic' groups are neither

homogeneous natural entities nor independent causes of political events. This assertion will strike most social scientists as simply incomprehensible. Worse, it poses a deeper problem. If conflicts over ethnicity do not shape the distribution of benefits in a welfare state, why do leaders, voters, and scholars assume they are so important? And, from a theoretical point of view, if welfare states have generated a belief in fictive kinship groups since the emergence of the first centralized governments, what is it that causes the development and controversy over the scope of the in-group viewed as the legitimate beneficiaries of collective goods?

The answer must be consistent with the second prerequisite of an evolutionary analysis of human politics noted above – namely, the need to capture the dynamic or historical dimension of state systems, which repeatedly have formed, expanded, entered into conflict, and collapsed. Ethnic identities tend to be perceived as qualitative, fixed attributes. Hence, ethnicity hardly explains why diverse populations were melded together to form states, whether we have in mind the earliest empires on the Tigris, Euphrates, and Nile or more modern societies like Great Britain, France, and Russia.

Many factors need to be considered. As Jared Diamond has shown in his magisterial *Guns, Germs and Steel*,¹¹ the physical environment and the sequences of its exploitation by early hominids were factors of overwhelming importance that have been generally ignored by historians and social scientists who seek to explain the origins of political institutions. Although Diamond's extraordinary analysis has enriched the foregoing discussion of the origins of the centralized state, his principal focus is the sequence of events leading to the progressive development of states in the Fertile Crescent, along the Nile, in Asia, and only later in Europe and the Americas. As our topic concerns shorter temporal spans, particularly in the recent history of the welfare state, Diamond's main contribution concerns the kinds of variables he demonstrated as of unsuspected importance to political and social organization. Of these, I will stress five – climate, technology, demography, geographical mobility, and religious belief. All, I will argue, have had effects on a critical intervening variable – the price of consumable goods¹² – as well as a direct causal impact on the disposition to contribute to collective benefits.

Climate

It will at first seem absurd to suggest that variations in climate might be independent causal factors in the rise and fall of centralized states. In fact, the evidence suggests that the economic, social, and political conditions throughout recorded history have been influenced by the weather and the broader ecological changes it can trigger.

Some consequences of climate change are at this stage speculative. For example, it has been suggested that a secular tendency to global warming is

responsible for the global decline in sperm counts that has been noticed by some biologists. It is known, at the individual level, that heat can reduce male fecundity: hence, French aristocrats had the custom of taking a hot bath before consorting with their mistresses. If an association between global temperatures and male sperm counts were to be confirmed, it would have direct implications for political institutions.

During periods of cold weather, with poor crop yields and potential food shortages, increases in the birth rate would further exacerbate between-group violence. Conversely, periods of warmer weather around the globe would expand the amount of arable land and thereby increase food supplies while reducing population pressure. Between-group conflict might thus be reduced, and dispositions to share (at least within an extended, fictive kin-group enhanced) as temperatures move from colder to warmer, but after a point, further increases in wealth and declines in population growth might lead to increased selfishness and a reduced disposition to contribute to collective goods.

As noted, the hypothesis of a link between weather and sperm count is highly speculative. A more general feature of climate is probably easier to document. Periods of environmental instability occur from time to time. Years with killing frost in the summer or prolonged heat waves during the winter have unpredictable effects on crops and economic activity. Conversely, periods of a more stable environment facilitate year-to-year planning and therewith enhance social stability.

Above, it was suggested that estimates of the relative value of the future and the present (the ratio V_f/V_p) may provide an important insight into the disposition to co-operate with central governing authorities and contribute taxes to support public welfare. Periods of changeable, unstable weather will – all else being equal – reduce the value of the future more than the value of the present. That in turn would be expected to reduce the disposition to support welfare transfer payments to those who are less fortunate. And, as we shall see below, there is suggestive evidence from long ‘waves’ of economic change that – among other things – supports this hypothesis with data from societies widely dispersed in space and time.

It should be added that instability or unpredictability from one year (or even one month) to another is quite different from secular changes in average temperature levels. This point may be of particular importance given the controversies over global warming. According to some scientists, human activity is responsible for a ‘greenhouse’ effect and dangerous increases in average global temperature. Others have criticized this view, using long-term models of the earth’s climate to suggest that, if anything, the trend may be toward global cooling. In assessing these debates, perhaps too little attention has been given to the possibility that both sides are partially correct – with the result that overall patterns will be marked by increased instability rather than by a linear trend towards either warming or cooling.

Whatever the future holds in store, this analysis can be applied fruitfully to the origins of the modern state system. Particularly after the wars of religion in the middle of the seventeenth century, western Europe was favoured by a period of relatively mild and predictable weather. Crop yields increased. Agricultural surpluses came to exist. Obviously, such changes make it easier to develop a welfare state by reducing the cost of resources to ensure that the least favoured members of society are supported by governmental transfers of wealth.

If global weather becomes colder, crop failures could threaten the productive surpluses on which welfare economies rest. Perhaps more relevant, an unpredictable climate – either associated with more severe storm patterns or merely seasonal changes of reduced regularity – would make it harder to insure the wealth on which contemporary welfare societies rest.

Technological Change

Whatever the uncertainty about possible changes in global climate and their impact on human social behaviour, there is little doubt that technologies are rapidly transforming the costs and benefits of many human practices. Traditionally, however, the impact of technology has focused on what Karl Marx called the ‘mode of production’. For example, large-scale heavy industry has progressively declined as a central factor in advanced industrial societies like the United States. Many political and social institutions are necessarily influenced by such a transformation. To cite but one example, the political influence of industrial labour unions has declined substantially in recent years; a decline that has greatly weakened support for many aspects of the welfare state.

In addition to these obvious effects of productive technology, however, are less noted but equally significant transformations in military and communications technology. Elsewhere, I have argued that techniques of communicating force (the foundation of military power) have a subtle relationship with technologies of communicating information (the foundation of political influence). Unlike productive technology, military and communication techniques both seem to have characteristic effects on the scope and stability of states and political systems. Obvious in the case of military technology – one need only think of the revolutionary implications of the invention of cannon and other firearms – these effects concern the balance between offensive and defensive capabilities and, therewith, directly transform the shape of a viable community.

Usually, a technological change in military or communicative practices will shift the benefits of aggressive or defensive states in a marginal way, at best. In contrast, at certain critical moments in history, the technologies of communicating information and delivering physical violence undergo

opposite transformational change. When this occurs, I have suggested, the scale of viable political units may be abruptly changed.

My analysis of the simultaneous reversal of offensive/defensive advantage in technologies of civilian communication and military force can be summarized as follows.¹³ Broadly speaking, the medieval period was marked by military technologies (the high-walled fortress, full body armour, the horse, and hence the aristocratic warrior) that favoured the defence, and communicative technologies (highly selective literacy, hand-copied messages, religious preaching) that favoured the offence. Under such circumstances, viable political institutions normally had a limited and variable political scope, depending on the ability of individual leaders. On the one hand, large-scale states had difficulty defending a long frontier without an exorbitantly expensive standing army. On the other, centralized rulers were vulnerable to revolt by ambitious nobles, some of whom may have possessed greater bravery and warrior skills than the king. In addition, communicative technologies allowed the Pope, not to mention other political rivals, to focus messages on vulnerable sectors of a rival society and thereby deny rulers unquestioned legitimacy.

In the fifteenth century, a double technological reversal took place. Gunpowder, cannon, muskets, and numerous other engines of war abruptly reversed the implications of military technology by now favouring the offence. A king, armed with cannon, could now destroy previously impregnable castles (as symbolized by Louis XIV's capture and demolition of the Protestant stronghold of Les Baux in southern France). At the same time, however, the printing press revolutionized the technology of communicating information, giving unprecedented ideological advantages to the defensive community. Now, for the first time, enormous 'national' populations could be presented with identical texts, making it possible to create a state in control of such a large territory that enemy cannon could never approach the royal seat of power.

At the end of the fifteenth century, Machiavelli and Leonardo da Vinci seem to have been the first thinkers to become aware of this double transformation and its effects on power.¹⁴ As Machiavelli put it (with characteristic pungency), given the transformations in military technology, 'even a pimp' could be a good soldier. If motivation could be provided by a common set of principles, the resulting armies could defend a royal castle like Versailles or Fontainebleau, in which thick walls were replaced by windows, gardens, and the amenities of a court life occupying the high aristocracy. In place of feudal contests for power, the emergence of printing led to the formation of centralized bureaucracies and judicial systems and ultimately electoral politics based on legitimized competition for power.

In feudal Europe, what we think of as the welfare state was impossible. The principal source of wealth was an aristocracy that continually challenged the power of the kings of France, England, and other major states. Any

attempt to tax centres of wealth for the purpose of income redistribution was not only limited by the productive technology of the epoch, but above all by the certainty of self-interested rebellion by the nobility (and, in all probability, the Church). With the almost simultaneous development of printing and cannon, centralized monarchies everywhere gained immensely in power and scope. Isolated noblemen could no longer resist kings who took on the role of 'national' leaders, supported by larger armies unified by political teachings that were disseminated by the printed word.

In the Middle Ages, aid to the poor and destitute took the form of charity and feudal obligation. Vassals who could provide services to a lord or noble could expect protection and assistance in return – a relationship easily explained in terms of reciprocal altruism. The Church (and especially monasteries) provided a supplementary source of charity, presumably motivated by a belief in divine rewards in the afterlife. The modern welfare state was only conceivable after such institutions were swept away by the emergence of a centralized, bureaucratic state on the scale of a modern nation, itself a creation based on common language more than ethnicity or even customs.

The characteristics of the modern state system as it developed after the seventeenth century differed fundamentally from medieval society. Military power organized by a central government could now overcome physical resistance by individual nobles and their supporters (or, for that matter, local groups of different language, religion, or ethnicity). Within that government's sphere of control, shared beliefs, spread by printing combined with widespread literacy, transformed the base of power from the feudal élite to the middle class, and ultimately to the entire citizenry. In such a system, the promise of welfare support for those least fortunate in the affairs of life can develop as a mechanism for guaranteeing mass support.

The technologies of warfare and communication continued to change after the early fifteenth century, but most innovations did little to alter the fundamental character of the system. In the nineteenth century, railroads expanded communication, extending further the homogeneity of attitudes and information disseminated through printing (and thus reinforcing the tendency of information and communication technologies to favour the defence); in the twentieth century, automobiles, radio, and network television continued the same trend. Conversely, over the last two centuries, most advances in military technology continued to favour the offence, including ocean-going steamships, tanks, and other devices based on the internal combustion engine, and air power. While the net balance of these forces sometimes favoured the defence (trench warfare in World War I) and sometimes the offence (air and sea power in World War II), the dynamic relationship between types of technology and power remained broadly similar.

Over the last two generations, this situation seems to be changing fundamentally.¹⁵ Computers, the biggest change in the communication of ideas since printing, fracture social communities instead of uniting them. Cable television, CD-ROMs, and fax machines have similar effects, making it more and more likely that diverse segments of society live in different perceptual worlds with incompatible belief systems. In competition between societies, such trends necessarily favour the offence because they can be used to create dissension within a target society.

Conversely, military technology has moved to a new phase, in which weapons of mass destruction are too dangerous to use in an offensive mode. As the Israelis have shown, as long as a second strike remains plausible, nuclear weapons are the ultimate trump, guaranteeing the invulnerability of their possessors. Indeed, as the Gulf War and subsequent attempts to topple Saddam Hussein have shown, massive offensive military capabilities are increasingly difficult to use, and when used, difficult to convert into decisive advantage. Hence, military technology tends to favour the defence, as it did in the medieval epoch.

The double reversal of offensive/defensive capability suggests that we may be returning to a situation comparable with that of the thirteenth and fourteenth centuries, if not the middle ages. Cross-cutting cleavages within state systems limit the ability of a central government to demand unquestioning obedience and engage in transfers of wealth to secure universal political support. Militarily weak societies can, none the less, threaten more powerful rivals by the astute use of information (in the form of rhetoric, deception, and infiltration into the relatively open communicative systems of a fully computerized economy).

Whether or not one accepts this interpretation of the effects of technology on political institutions, the broader issue should be obvious. The mode of producing goods and services, long stressed by Marx and his followers, is far from the only technological factor that constrains the capacity of a political system to generate and support welfare policies that benefit the unfortunate. And when powerful social groups seek to avoid paying for costly welfare programmes, hostility to ethnic out-groups can be an effective ideological justification.

Demography

Populations differ in structure. Sometimes the birth-rate falls, reducing the proportion of the society under reproductive age. Conversely, the prolongation of life expectancy can increase the ratio of the aged to those active in the labour force. In some communities, the sex ratio is influenced by customs (such as elimination of females through selective abortion) or by warfare (with the attendant disproportion of male deaths).

Population structures obviously influence the expectation and support for the welfare state. Since birth rates, life expectancies, and sex ratios can vary independently, the demographic characteristics influencing attitudes towards the future and commitments to social welfare are not limited to overall rates of population growth. Even so, whereas climate and technology are usually ignored in discussions of the welfare state, many economists are acutely aware of the implications of demographic structure and change. Hence a briefer treatment of this factor should suffice.

It is usually assumed that if family size is at or below the rate of a stable population (usually just over two per adult), social attitudes are more likely to be risk-averse. Biologists speak of *K*-strategy; the pattern in which investment in each young member of the species is increased. The converse structure, with a high birth rate and large families, corresponds to an *r*-strategy in biology and is often accompanied by higher risk-taking behaviours, especially among males who must compete with each other for scarce resources or status.

Similar effects can arise at the other end of the age pyramid. When life expectancy increases and the aged form a higher percentage of the total population, it seems obvious that social attitudes will favour stability and certainty, avoiding risk and radical change. Conversely, high mortality rates are associated with greater risk-taking and a willingness to ascribe high value to desired future outcomes.

Where sex ratios are strongly skewed towards males, greater male-male competition for mates and higher risk-taking is usually observed. Conflicts between groups become more likely, since males may have a particular incentive to seek resources – and perhaps even mates – through the defeat or conquest of rival communities. A predominance of females, on the other hand, will typically orient social choice toward *K*-strategies.

Since such considerations interact with each other, demographic structures can have apparently contradictory effects on attitudes and behaviour. Often, perceptions depend on the rate of change from one generation to another rather than on the absolute age and sex structure of the population. And while factors influencing demography often also directly impinge on political and social attitudes, the relatively slow change of demographic age structures forms an environmental constraint for short-term public policies.

Geographical Mobility

Throughout history, humans have moved whenever opportunities for a better life seemed greater than the risks of uprooting oneself and moving. Essential to the hunter-gatherer way of life, geographical mobility persisted and even took on greater importance in agricultural societies depending on fertile, well-watered land. Sometimes entire societies move, as when Moses led the chosen people to the Promised Land. At other times, especially when

there is an excess of young males, mobility occurs as a risk-taking strategy by individuals.

Population genetics and linguistic analysis have shown that the structure of the human species' gene pool is shaped by the historical patterns of geographical mobility. The overlap between linguistic communities and shared genetic mutations¹⁶ suggests that, to a degree, perceived social differences in language and culture may reflect differential relatedness. However, the groups so defined correspond very weakly to the ethnic or religious groups that are politically defined as heterogeneous or problematic. And dominant social classes which perceive themselves as ethnically homogeneous are, most often, the result of an amalgamation of quite diverse linguistic and genetic subpopulations.

Opportunities for migration depend on historical accidents and contingencies. When Europeans first arrived in the New World, as Diamond¹⁷ points out, they did not 'discover' uninhabited territories (as had been the case millennia earlier, when the first Asian migrants crossed the land-bridge into what is now Alaska). However, the uneven pace of political, technological, and cultural development gave the Europeans weapons and social organization that made the defeat of the indigenous 'Indian' populations inevitable. As soon as this was evident, migration to the New World became an opportunity to exploit valuable lands and resources.

Migration also reflects characteristics of the individuals and groups who seek improved lives by moving. The Spanish territories in Central and South America were exploited and settled in a very different manner than English or French settlements in North America. For instance, Queen Isabella originally sought to exclude emigration and settlement by anyone who was not a Castillian – including subjects of her husband, King Ferdinand of Aragon. The English, in contrast, allowed and even encouraged emigration by religious minorities and social outcasts who otherwise challenged the *status quo* in the mother country.

For demographic reasons, today's welfare states are more likely to be recipients of immigrants from poorer societies than sources of out-migration. Foreign labourers, however, are less likely than citizens to expect, demand, or receive social welfare from their host government. This acceptance of conditions that strike other citizens as harsh reflects the immigrants' perception of greater socio-economic opportunity as well as the likelihood that they have risk-taking personalities.

As this illustration suggests, when migration within or between societies is a ready option, the demand for social welfare is reduced. On the one hand, migration serves as a safety-valve for individuals and groups that might otherwise challenge the dominant power structure. On the other, those whose mobility is rewarded by economic and social success often share their gains with close kin, providing a form of welfare not mediated by systems of governmental taxation and legislated entitlement.

There is great irony in the role of migration in contemporary welfare states. Particularly in western Europe, immigrant labour has been a target for xenophobic hostility. Oddly enough, however, such nationalist movements as Jean-Marie LePen's Front Nationale in France have the effect of protecting the welfare claims of citizens from challenge. Whereas those who contest policies of taxation and public expenditure in the United States often challenge welfare in general, the explicit hostility to foreign workers can be an alternative. Hence, in this case, ethnic diversity (in the form of migrant labour) may actually protect welfare entitlements that might otherwise be challenged by envious lower-middle-class voters.

Religious Belief Systems

Religion provides concepts and beliefs that profoundly shape attitudes towards life, death, and time. Where theological doctrines include strongly held beliefs in the afterlife and individual salvation, the value of the future is not limited to the assessed opportunities during one's own lifetime or that of offspring and descendants. Even though world religions like Christianity and Buddhism are very long lasting, changing beliefs can deeply influence the way believers invest in resources and in social commitments.

Salter has noted that today, ethnic heterogeneity poses a challenge to the welfare state. However, prior to World War II, ethnic divisions were either less obvious than religious prejudice or confused with it. Anti-Semitism was virulent not only in Nazi Germany, but in the United States and other countries of western Europe. American Protestants were scarcely less outspoken in their hostility to Catholics than to Jews. Whatever the genetic and social variations within these religious communities – and they could generate conflicts at another level – the dominant society's hostility to religious out-groups was especially typical among those who were opposed to egalitarian welfare policies.

After World War II, religious toleration came to replace openly stated rules of preference and exclusion. In place of legally enforceable rules of exclusion from public accommodations or quotas in universities, ecumenical religious beliefs were combined with egalitarian social rules. We forget too easily that, when an international conference was organized to plan the monetary system linking the victors in World War II, it took place at Bretton Woods because this huge resort hotel was one of the only establishments of sufficient size and character that would accept Jews like Henry Morgenthau, President Roosevelt's Secretary of the Treasury.

It would, of course, be a mistake to assume that religious belief was uniformly hostile to the expansion of the welfare state. The civil rights movement in the United States was supported and often led by dedicated believers (of whom the Reverend Martin Luther King Senior is the most

obvious). Nor is there any simple correspondence between other-worldly orientations and political activism, as the career of Gandhi illustrates.

In recent years, moreover, religious heterogeneity has often taken on a global dimension. To cite Benjamin Barber's work, we often witness the conflict of Jihad versus MacWorld. The beliefs of Islamic fundamentalists vary widely among themselves, not to mention their differences from Christian fundamentalists and evangelicals. It is not intuitively obvious how to classify the way the Taliban of Afghanistan, the Shi'ia of Iran, or the Muslims of Kosovo relate to the welfare state as it is known in western Europe. Nor is it clear that what outsiders view as ethnicity should, rather, be understood as religious sects and doctrines.

For all the reasons outlined above, an evolutionary approach to human history and politics reveals that ethnicity is an exceptionally slippery concept. Many factors influence the willingness to support a redistributive welfare state, but from the perspective of neo-Darwinian biology, these influences should be mediated through assessments of cost and benefit.

On theoretical grounds, I have argued that co-operation with strangers becomes possible because, due to their large neo-cortex and capacity for linguistic communication and abstract thought, humans engage in a more complex cost/benefit calculus than other animals. Whereas the social behaviour of other species entails little more than responses to the current environment, human behaviour reflects simultaneous assessments of the future as well as of the present. In cost-benefit terms, I have therefore suggested that the ratio of the value of the future to that of the present (V_f/V_p) might be used to analyse dispositions to co-operate and compete. It is to this economic dimension of human civilization that we must now turn.

V. CONCLUSION: THE PRESENT HISTORICAL CONTEXT

It may seem odd that, in the above account of factors that contribute to the success of a welfare state, little has been said about economics. This is because, from an evolutionary perspective, the dispositions to produce, trade, and acquire goods in a market economy are – like the submissive behaviour towards leaders or the willingness to die in defence of the state – behaviours to be explained and not independent causal factors. Just as obedience to governments and payment of taxes are an evolutionary novelty that seems hard to explain on strict neo-Darwinian grounds, the market economy entails trusting strangers and having faith in that artificial measure of value known as money, neither of which is consistent with a strict interpretation of inclusive fitness theory.

To explain the emergence of the modern welfare state, it is therefore necessary to focus on the empirical facts of Western civilization from a perspective that emphasizes the costs and benefits of social co-operation.

Fortunately, much is known about the economic correlates of European history. The account that follows will rest primarily on the work of David Hackett Fischer, whose magisterial *The Great Wave*¹⁸ brings together an astonishing array of data on the economic and social considerations that have structured Western socio-economic and political history since the Middle Ages. Although Fischer's analysis may well be in error – or at least incomplete – no discussion of the evolution of the welfare state can ignore the data that he puts at our disposal.

Fischer argues that Western socio-political history reflects a series of alternating 'waves' of inflation (which coincide with epochs of rapid population growth, social and military conflict, declining real wages, increased socio-economic inequality, and poor climate) and of economic stability. His overall thesis is summarized in Table 12.1.

As Fischer's historical account reminds us, the institutions of a centralized state in the modern sense did not exist before the fifteenth century, when the process of 'state-building' characterized what has been called the late 'Medieval Renaissance'. Before that time, the poor received charity, especially through feudal lords (whose protection of vassals was based on complex relations of reciprocity) and monasteries or other Church institutions. Even in the early modern state, formal arrangements for transferring resources to the poor were not well developed by governments. As late as 1693, in the aftermath of the Glorious Revolution of 1689, we find John Locke, a leading political adviser and theorist, advising leaders against policies that provide welfare assistance to the poor.

Although centralized states first emerged in periods of relative price stability, during which social inequality appeared to be declining and population was stable, welfare policies were an eighteenth-century innovation in response to rapidly increasing prices and population pressure, which formed a 'price revolution' otherwise similar to inflationary waves in the thirteenth and sixteenth centuries. Fischer summarizes the eighteenth century context as follows:

The result of this decline in real wages in the eighteenth century was different from earlier price-revolutions. It caused much suffering among the poor, but no epidemic famines as in the fourteenth century and no decline of population as in the seventeenth. Here is a striking paradox in the history of price-revolutions. As one of these great waves followed another, rates of inflation increased but human suffering diminished. How could this have been the case?

One important factor, beloved of classical economists, was the expansion and integration of world markets. Another was the improvement of income per capita, which meant that fewer people were living near the edge. A third was the growth of welfare that, however limited, helped to prevent starvation. The price of all these

Table 12.1: Summary of David Hackett Fischer, *The Great Wave* (New York: Oxford University Press, 1996).

Period	Name	Culture	Demography	Economy	Class	Climate	Technology
1100s	Renaissance of the 12th century	First Crusade (1096) Cathedrals: Notre Dame (1163), Canterbury (1173), Universities: Paris, Oxford, etc. Kings: Henry II, Augustus		Stable increase in parallel prices			
1180-1350	Medieval Price Revolution (Demand-driven inflation)	St. Louis captured (1250); Avignon Papacy (1305-80); Rebels and wars	> Pop. (1170ff.); > fertility; Black Death (1317-50);	> Money; > metals; Instability; Bad Loans; Inflation (agricultural prices)	> Inequality; Conflict; Massacre of Jews	Instability; Crisis of 1314-15	
1400-1170	Medieval renaissance	Ottoman Empire (1430ff.); Italian recovery (1400ff.); French recovery (1400ff.); English Wars of Roses; State building after 1450; Spain (1469); Art, Literature, Music	Stabilized after crash	Venice (seapower) Florence (banking)			Printing Cannon Ocean Ships
1500-1650	Price Revolution of the 16th century	Discovery of America (1492); Saxons (1494-96); Invasions of Italy (1490s); Francis I (1515); Luther (1517)-Reformation; Queen Elizabeth I (1558-1603); 30 Years War (1618-48); Rebellions (1600-1650); Peace of Westphalia	> Pop. (1490ff.); Epidemics (1500s); < Pop. (1590-1620)	Inflation (1470s) (agricultural prices); Stagnation (1500s); > Gold; Govt deficits; Debasements	> Inequality (1570ff.); Class Conflict; Religious War; Pogroms (1618-38)	Famines (1300, 1320, 1327, 1336, 1396); Little Ice Age (1300s)	
1650-1750	Equilibrium of the Enlightenment	William and Mary (1688); Bach (1658-1750); Louis XIV (1643-1715); Voltaire (1694-1778)	Stable to 1730	> Wages; < Interest; stable prices	< Inequality	Shortages (1670, 1691, 1708, 1713)	

Table 12.1: Continued

Period	Name	Culture	Demography	Economy	Classes	Climate	Technology
1730-1815	Price revolution of the 18th century Demand-driven	Expanded colonization War of Austrian Succession (1740-63) 7 Years War (1756-63) Pietism (1740sff.) American Revolution (1776) French Revolution (1789) Napoleonic Wars (1796-1815) Queen Victoria (1819-1901)	> Pop. Lower age of marriage > Fertility Mass Warfare Exponential Pop. Growth < Illegitimacy	Inflation Cities 1730s Rural 1740s Spain 1750s China Ottoman Empire Paper \$ > Wages Brief Cycles US Panics (1819, '37, '57, '73, '93) < Interest World Market < Prices	> Inequality Welfare < Inequality < Crime	1814-18 Killing Frosts Warmer Bad harvests 1840s	Navigation Industrial Revolution Agricultural Revolution Steam Rail
1820-1896	Victorian Equilibrium	Revolutions of 1830 & 1848 US Civil War (1860-65) German Unification 1864-71 Completion of Colonization					
1896-present	Price revolution of the 20th century	World War I (1914-18) Russian Revolution (1917) Nazi Germany (1933-1946) World War II (1939-46) Decolonization Cold War (1946-89)	Exponential Pop. growth rate doubles in Third World Disease control	1896-1916 Inflation Hyperinflation < Prices (1923-34) (1929 crash) Rapid inflation 1938ff. > Wages Recession (1980-93)	Global conflict Class Politics US inequality < 1928 to 1968, then greater	Automobile Telephone Mass Media Nuclear Weapons Computers Medicine	

Table 12.1: Continued

Period	Name	Culture	Demography	Economy	Climate	Technology
1989 present	??New Equilibrium?? or ??Crisis (climax of Price Revolution of 20th Century)??	Fall of Communism Gulf War US Hegemony	Pop. growth slows	Price stability < Crime (US) < Wages-US (1973ff.)	Warmer	

??To summarize, each price-revolution developed through five stages: slow beginnings in a period of high prosperity; a period of surge and decline; a time of discovery and institutionalization; an era of growing imbalances and increasing instability; and finally a general crisis. The climax was followed by a fall of prices, recovery of stability, and a long period of comparative price equilibrium. The social and cultural impact of these movements changed from one great wave to another. Velocity increased and variability declined. Each successive price-revolution became less catastrophic in its demographic consequences, but more sweeping in its social impact." Fischer, p. 241.

improvements was acceleration in rates of inflation, and diminution of its cruellest consequences.

A case in point was the history of welfare. In 1795, the justices of Britain's Berkshire County met at the Pelican Inn in Speenhamland, and agreed to make a change in their system of poor-relief. They ordered that 'subsides in aid of wages would be granted in accordance with a scale dependent upon the price of bread, so that a minimum income should be assured to the poor irrespective of their earnings'.¹⁹

This system, which persisted in England until 1834, is the forerunner of the contemporary welfare state. But why did it emerge, particularly if an increase in per capita incomes and the institution of a world market reduced the vulnerability of the poor in a single area of Europe? Fischer's answer is that the 'great waves' of Western history, and the socio-political institutions they spawned, resulted from a complex of social factors interacting in subtle and sometimes puzzling ways.

This approach may not seem entirely satisfactory, but it surely resembles the complexity of evolutionary theory (particularly as it was formalized by Sewall Wright, whose emphasis on multiple levels of causation avoids the reductionism so characteristic of fashionable models today). It also qualifies, at least in a negative sense, many of the arguments that are offered today about the future of the welfare state. Let me conclude by focusing on the issue of ethnicity, and my claim that it is a secondary factor or rationalization for a desire to restrict social co-operation based on such other factors as climate, technological change, demography, geography, and religion.

As Salter²⁰ notes, Brown and Hero and Tolbert (among others) have claimed that hostility to ethnic minorities is a major factor in the provision of social welfare benefits. Characteristically, such studies look at a single measure of the ethnic heterogeneity as a predictor of a single measure of welfare expenditures. If we take a broader view, however, it becomes apparent that hostility to one or more minorities - whether consciously expressed or implicit - is itself part of a highly complex structure of responses. That is, the data suggest that ethnocentrism is a rationalization for the desire to reduce the scope of unknown non-kin who will benefit from contributions to the collective good, and not an independent 'cause' of political behaviour.

In Tables 12.2a-12.2b, I present a multiple regression model to explain the provision of five different kinds of public goods in all counties in the United States reporting 1991 data ($N=2,971$). Three of these public goods are services representing the social overheads of a civilized society - sewers per capita, public water supplies per capita, and police per capita (Table 12.2a). As evidence of the provision of public welfare, the same model is then used to predict welfare assistance, measured both by the total expenditure per capita and the percentage of the population receiving benefits (Table 12.2b). Although social overheads may seem inappropriate since, in rural areas,

Table 12.2a: Factors Associated with Public Welfare Services. (Multiple Regression - All US Counties reporting in 1991 [n = 2,971])

Independent Variable	Public Services/Capita			Public Water Supplies/Capita			Police/Capita		
	Stand. Coeff.	t-Value	Significance	Stand. Coeff.	t-Value	Significance	Stand. Coeff.	t-Value	Significance
% Black	-0.271	10.19	0.0001	-0.178	5.80	0.0001	-0.050	1.65	0.0995
% Hispanic	0.082	5.00	0.0001	n.s.	n.s.	n.s.	0.150	8.00	0.0001
Median Grade	0.300	14.92	0.0001	0.212	9.16	0.0001	0.201	8.70	0.0001
Infant Death	-0.031	2.14	0.0323	-0.049	2.92	0.0036	n.s.	n.s.	n.s.
Pop./mile ²	0.136	8.39	0.0001	0.073	3.91	0.0001	0.226	12.14	0.0001
Unemployment	-0.204	12.74	0.0001	-0.177	9.60	0.0001	-0.132	7.18	0.0001
Poverty/Cap.	0.419	10.51	0.0001	0.351	7.64	0.0001	0.287	6.18	0.0001
Alcoholism	n.s.	n.s.	n.s.	0.109	5.93	0.0001	0.135	7.36	0.0001
Property Crime	0.305	17.57	0.0001	0.236	11.78	0.0001	0.154	7.72	0.0001
PCIWhite	0.093	3.69	0.0002	0.142	4.91	0.0001	n.s.	n.s.	n.s.
PCIBlack	-0.034	2.31	0.0210	n.s.	n.s.	n.s.	-0.067	3.93	0.0001
PCI Hispanic	0.035	2.28	0.0229	n.s.	n.s.	n.s.	-0.032	1.82	0.0695
% White Poor	-0.207	5.15	0.0001	n.s.	n.s.	n.s.	-0.165	3.57	0.0004
% Black Poor	n.s.	n.s.	n.s.	0.038	2.21	0.0269	n.s.	n.s.	n.s.
% Hispanic Poor	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Adjusted R ²	0.403			0.207			0.215		
F-test	134.83			52.63			55.34		
p	0.0001			0.0001			0.0001		

n.s. = not significant.

PCI = per capita income.

Table 12.2b: Factors Associated with Collective Goods: Public Welfare. (Multiple Regression All US Counties reporting in 1991 [N = 2,971])

Independent Variable	Welfare Payments/Capita			Welfare Recipients/Capita		
	Stand. Coeff.	t-Value	Significance	Stand. Coeff.	t-Value	Significance
% Black	-0.174	5.89	0.0001	n.s.	n.s.	n.s.
% Hispanic	-0.188	10.36	0.0001	n.s.	n.s.	n.s.
Median Grade	0.130	5.84	0.0001	n.s.	n.s.	n.s.
Infant Death	0.028	1.71	0.0873	0.027	1.71	0.0873
Pop./mile ²	0.219	12.11	0.0001	0.294	16.68	0.0001
Unemployment	0.318	17.85	0.0001	0.075	4.32	0.0001
Poverty/Cap.	0.593	13.37	0.0001	n.s.	n.s.	n.s.
Alcoholism	n.s.	n.s.	n.s.	-0.085	4.91	0.0001
Property Crime	0.114	5.92	0.0001	0.267	14.14	0.0001
PCI White	n.s.	n.s.	n.s.	0.064	2.36	0.0183
PCI Black	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
PCI Hispanic	-0.046	2.67	0.0076	0.037	2.19	0.0288
% White Poor	-0.313	6.99	0.0001	-0.085	1.94	0.0530
% Black Poor	-0.033	1.95	0.0513	0.027	1.68	0.0934
% Hispanic Poor	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Adjusted R ²	0.263			0.296		
F-test	71.61			84.13		
p	0.0001			0.0001		

n.s. = not significant.

homes largely rely on individual septic systems and private wells, urbanization is directly measured by including population density as one of the independent variables. Using these regression models, therefore, we can assess the extent to which a range of public goods, as well as welfare assistance, might be reduced where the population includes more blacks or Hispanics, lower overall education, higher infant death rates, more unemployment, more alcoholism, more property crime, and either ethnic wealth or ethnic poverty.

To facilitate comparisons, standardized coefficients are reported. As Tables 12.2a and 12.2b show, this way of analysing the problem indicates that hostility towards blacks is probably a factor predicting lower levels of all public services, since there are main effects for the proportion of blacks in the population for four of the five dependent variables. In contrast, counties with more Hispanics also have significantly higher rates of sewage facilities and police protection, and while their per capital level of welfare payments is lower, there are significantly higher numbers receiving benefits in counties with more Hispanic poor (as well as counties with more Hispanics with high incomes).

While the data clearly show a bias against providing collective goods in areas with higher percentages of blacks in the population, the regression models also show the following:

1. The provision of both social infrastructure and overall expenditures on welfare are strongly correlated with overall poverty (with standardized coefficients that are from two to five times greater than those for percentage of blacks in the population).
2. Many other factors come into play (including educational levels, population density, rates of crime, and - for both measures of welfare rates of infant death).
3. Hostility to blacks is obviously more serious than hostility to Hispanics, and extends to the underprovision of such public goods as sewers and police to counties with high average incomes in the black population.
4. The percentage of the Hispanic population that is below the poverty line is not a significant predictor for any of the five independent variables, whereas the percentage of blacks who are poor is positively associated with the number of welfare recipients *and* negatively associated with the average payment (indicating lower per recipient payments to blacks than to other groups).
5. The percentage of the white population that is poor is also a correlate of lower welfare expenditures and fewer individuals receiving them, as well as fewer sewers per capita and fewer police per capita, suggesting that the negative factors on providing public goods include visibly poor people as such, not merely poor members of minorities.

These findings are consistent with the notion that the hostility to an out-group is a secondary rationalization for resistance to allocating valuable resources to the centralized state. In the American case, black skin is the most salient 'recognition marker' of an out-group with low power and status.²¹ This suggests that it may be the ease with which to identify a target of hostility, and not the mere existence of ethnicity, that triggers hostility when citizens seek to restrict the provision of public goods. Were it otherwise, one would not expect such selective differences between Hispanics and blacks as correlates of the underprovision of the social benefits financed by taxpayers.

As this analysis considers actual expenditures (not stated attitudes or motivations), it probably traces rather accurately the extent to which racism is actually weaker than overall need. This is shown in Tables 12.2a and 12.2b by the size of the standardized coefficients, which are much higher for overall need (the percentage of the entire population living in poverty), or such signs of social decay as the rates of property crime, than for the measures of ethnicity and ethnic poverty. At a time of great wealth and prosperity in the United States, racial hostility has declined markedly from the openly segregationist norms that prevailed from reconstruction to the civil rights movement of the 1960s.

Such an interpretation is consistent with the role of ethnic or racial hostility during the price cycles in Western history that led to the establishment of the modern welfare state. As Fischer notes, pogroms

directed against Jews were typical during the pre-modern price revolutions, when rapid inflation led to impoverishment, deeper social inequality, and a sense that societies were out of control. The persistence of anti-Semitism in today's Russia (where relatively few Jews remain), combined with its relative decline (at least for the present) in the United States, suggests that target groups are identified as a matter of saliency or political convenience. It seems that ethnic minorities are characteristic targets for those seeking to justify a reduction of welfare expenditures for multiple reasons;²² and if no suitable target is at hand, it would seem that an out-group can and will be invented. Religious groups, linguistic minorities, newly arrived settlers – a surprising array of attributes can become the lightning rod for fears and the desire to reduce the scope of the population sharing the benefits of public policy. It could hardly be otherwise, since the citizen body is, to begin with, an artificial or fictive kinship-group from the perspective of evolutionary biology.

CODA: THE FUTURE OF THE WELFARE STATE

'I definitely describe myself as a European. . . . I may get sentimental when they play the Marseillaise, but for all the practical things, I see myself as a citizen of Europe. I like the life style in France, but I don't make my living there.'

*French banker living in London.*²³

'Both sides have gone looking for trouble and they have found it. If the two sides are unwilling to live up to their agreements, 2,000, 3,000 or 4,000 unarmed verifiers cannot frustrate their attempts to go after each other.'

*Diplomatic Monitor in Kosovo*²⁴

Prognostication is not the same as scientific explanation, especially when discussing human politics. While the foregoing analysis has obvious implications for the future, it is therefore fitting to set them apart from the substance of the argument.

My analysis suggests two apparently contradictory hypotheses: first, the centralized nation-states, which were first conceived during the Medieval Renaissance (1400–1470) and took form during the Price Revolution of the sixteenth century (1490–1650), are radically changing. If so, it would seem that support for the traditional welfare state may be undercut by the paradoxical combination of emerging political and economic units on a continental scale and resurgent loyalties toward more parochial socio-cultural regions and identities. Evidence of profound changes in the willingness to pay for traditional social welfare policies is ubiquitous – most notably in the stated

goal of substituting 'workfare' for 'welfare,' endorsed by American politicians on the Left as well as the Right.

Second, however, is a contrary trend, symbolized by the equally ubiquitous notion of 'human rights' and perhaps reflecting the possibility that we are entering another 'equilibrium' phase in Western history. If climates become warmer, population growth remains in check, and prices stabilize, Fischer's historical analysis suggests a period of reduced social inequality and greater dispositions to assist the less fortunate.

The outcome of these countervailing forces may well be the emergence of complex social systems more like those of the Medieval Renaissance than the nation-states of recent history. For example, between 1500 and 1975, the technologies of mass communication (printing, newspapers, state-supported postal services, and later radio and television) had the effect of progressively facilitating the dissemination of identical messages to the population of an entire nation-state. Computers, the Internet, fax, and CD-ROMs, foreshadowed by the telephone and automobile, lead to diverse and plural information systems and perceptual communities. Increasingly, those in one subcultural community receive largely different information from local neighbours with a different focus of interest.

This shift is symbolized in the United States by the decline in audiences watching the principal network television stations – and in Europe by the success of such continental or global networks as Skychannel and CNN. In economically fragile societies, these changes have substantially weakened many central governments that are not willing to use openly repressive methods to maintain control over their citizens. As a result, economic and cultural interaction have become a principal offensive mechanism for undermining regimes whose behaviour is contrary to the norms of legal and social behaviour preferred by western Europeans and Americans. Indeed, far from punishing rulers like Quaddafi and Saddam, economic sanctions seem to help them considerably.

Changes in military technology are also significant factors in altering the scale and character of political systems.²⁵ Nuclear weapons and other means of mass destruction provide a formidable second-strike defence, but they can hardly be used by a superpower in an offensive first-strike. At the same time, the miniaturization of weapons, including those using chemical or biological means of destruction, makes it possible for a secondary power to greatly increase the costs of attempts to expand centralized control. The limited ability of the United States to control the behaviour of Iraq and North Korea shows the primarily defensive utility of our immensely powerful military arsenal.

In the military sphere, these changes suggest a diffusion of power is likely. The United States, in a position of hegemony over the last generation, is more likely to become *primus inter pares* in a multipolar world. Recently, for example, Russia has suggested to India and China that the triad become a

pole of influence balancing the US and Europe. As in post-Napoleonic Europe under the Congress of Vienna, we might therefore see the emergence of a balance-of-power system. Although a broader distribution of power will doubtless distress those who have benefited from America's world hegemony, and would not prevent short-term shocks and conflicts, such a multipolar world would be less likely to explode into global warfare and major catastrophe.

In a domestic sphere, the future will probably depend more directly on the factors emphasized in Fischer's account of the 'great waves' of Western history. It is possible that the combination of increased agricultural output, improved economic planning, and better health care will lead to stabilization of both the world price system and the world's rate of population growth. Under these circumstances, industrialized societies will continue to provide a welfare safety net, albeit perhaps on a more selective basis. Charity or local beneficence would become more important, together with targeted concern within diverse religious or ethnic groups for the well-being of their own members.

Writing in the mid-1990s, Fischer could not be sure whether we face a global crisis or have entered a new equilibrium. With a few additional years of hindsight, the evidence for the latter is a little stronger. Prices remain stable. Population growth has continued to slow. Crime and drug usage have continued the small but steady declines that started around 1990. Shocks to the system that might have triggered global catastrophe have been absorbed. Whether associated with global warming (a characteristic of prior epochs of equilibrium) or technological mastery of the worst impacts of environmental unpredictability, is it possible we will avoid the catastrophes of global warfare, depression, and disease?

Given current trends, one can predict that if we are on the eve of a twenty-first century Equilibrium, this future will look very different from the political and social life based on the nation-state as it has developed since 1750. On an optimistic interpretation, there will probably be more frequent localized violence and less frequent global warfare, more diverse systems for providing welfare and fewer marked lines of the class warfare described by Marx. Or, to put it in a paradoxical phrase, the future of the welfare state might turn out to be more human welfare and less centralized state.

NOTES

1. 'Most theories of social evolution have been rendered virtually meaningless by their failure to specify mechanisms accounting for movement from one stage to another. Indeed, there are good reasons for believing that limitations necessarily bound any theory of social evolution', quoted from J.A. Hall (ed.), *States in History* (Oxford: Basil Blackwell, 1986), pp. 20-21.

2. R.P. Shaw and Y. Wong, *Genetic Seeds of Warfare: Evolution, Nationalism and Patriotism* (Boston: Unwin & Hyman, 1989). From an ethological perspective, 'recognition markers' are any phenotypical trait observers can learn to treat as a just noticeable difference between carriers and non-carriers. This can include language, dress, and accent as well as physiological traits with supposed genetic heritability. In general, ethnic identifications are less inclusive than the 'races' and species that biologists distinguish among other animals – yet they are more inclusive than many of the human populations identified by geneticists and linguists (see L.L. Cavalli-Sforza and F. Cavalli-Sforza, *The Great Human Diasporas* [Reading: Addison Wesley, 1995]). Moreover, even when conflated with 'race' (as was the case before 1945 for Jews in Nazi Germany or for 'blacks' in the United States), ethnic groups have constantly changing boundaries and identities. In the United States, for example, the term 'Negro' once meant something rather different from 'African-American' as used today. Prior to the success of the civil rights movement, not only were so-called racially mixed individuals more likely to be included (even if, on phenotypic grounds, they were able to – and sought to – 'pass' as whites), but black Africans were not always included among 'Negroes'. Indeed, the current anathema on the use of the term 'Negro' symbolizes clearly the difference between biological terminology and the concept of ethnic identity. To imagine the contrary, one needs to imagine a biologist being condemned for moral insensitivity and forced to resign a tenured position because he described a skull as belonging to *Homo erectus* when the dominant view assigned it to *Australopithecus africanus*.
3. Shaw and Wong, *Genetic Seeds of Warfare*; R.D. Masters, 'World Politics as Primitive Political System,' *World Politics*, XVI (July 1983), pp. 595–619; R.D. Masters, 'On the Evolution of Political Communities: The Paradox of Eastern and Western Europe in the 1990s', in M.T. McGuire (ed.), *Human Nature and the New Europe* (Boulder: Westview, 1993), pp. 99–130.
4. R.D. Masters, *The Nature of Politics* (New Haven: Yale University Press, 1989), Figure 5.2.
5. Masters, *The Nature of Politics*, Figures 5.2–5.5. This explains why siblings who will co-operate when either one is threatened by an outsider will fight between themselves over trivia.
6. M. Fortes and E.E. Evans-Pritchard (eds), *African Political Systems* (London: Oxford University Press, 1940).
7. M. Barkun, *Law without Sanctions* (New Haven: Yale University Press, 1963); R.D. Masters, 'World Politics as Primitive Political System', *World Politics*, XVI (July 1983), pp. 595–619.
8. Hall, *States in History*; J. Diamond, *Guns, Germs and Steel* (New York: W.W. Norton, 1997).
9. Masters, *The Nature of Politics*.
10. Cavalli-Sforza and Cavalli-Sforza, *The Great Human Diasporas*.
11. Diamond, *Guns, Germs and Steel*.
12. D.H. Fischer, *The Great Wave* (New York: Oxford University Press, 1996).
13. For a fuller statement, see R.D. Masters, 'Machiavel, Léonard da Vinci, et l'émergence de la modernité', *Archives de Philosophie et de Droit*, 41 (1997), pp. 413–43.
14. Masters, 'Machiavel'.
15. J. Adams, *The Next World War: Computers Are the Weapons and the Front Line is Everywhere* (New York: Simon & Schuster, 1998).
16. Cavalli-Sforza and Cavalli-Sforza, *The Great Human Diasporas*.
17. Diamond, *Guns, Germs and Steel*.
18. Fischer, *The Great Wave*.
19. *Ibid.*, p. 132.

20. F. Salter, 'Symposium Target Paper', quoted in Chapter 1 of this volume.
21. Shaw and Wong, *Genetic Seeds of Warfare*.
22. Ibid.
23. A. Stanley, 'For Ambitious Entrepreneurs, All Europe is Just One Nation', *New York Times*, 24 December 1998, p. A1 (quoting Jean-Marc Routiers, 26, who learned English in Australia).
24. M. O'Connor, 'Attack by Serbs Shatters a Cease-Fire in Kosovo', *New York Times*, 25 December 1998, p. A-1 (quoting William Walker, American diplomat in charge of the monitoring mission in Kosovo for the Organization for Security and Co-operation in Europe). The same report goes on to quote a British major-general, John Drewienkiewicz, who is the deputy head of the monitoring mission: 'Why should we put the lives of our young men in danger to help people who have not kept their solemn agreements? The states contributing forces will not see them caught in a meat grinder. They will pull out instead.' (ibid.)
25. Adams, *The Next World War*.

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Part IV

Ethical and Policy Implications

Ethnicity, the Problem of Differential Altruism, and International Multiculturalism

Irenäus Eibl-Eibesfeldt

At the Ringberg Castle meeting on 'Indoctrinability, Ideology and Warfare' held in January 1995, I presented a paper titled 'Us and the Others', in which I discussed the phylogenetic roots of ethnonationalism, an ideology characterized by differential altruism, a form of exclusiveness graded by distance.¹ It finds its first manifestation in the mutual individual mother-child bond. Within 12 hours of birth a baby recognizes its mother's smell and when only three days old its mother's voice. At the age of six to eight months, the well-known fear of strangers develops and can be readily observed. This childhood xenophobia is superimposed upon positive signs for readiness of contact such as smiling, indicating a clear ambivalence caused by the simultaneous arousal of two motivational systems: one responsible for pro-social, the other for agonal behaviours, depending partly on experience. The phenomenon, however, is universally encountered, since it is rooted in phylogenetically evolved social dispositions.

Personal acquaintance reduces the fear and shifts the balance from mistrust towards trust. The English language aptly speaks of 'familiarization'. This process also allows persons not belonging to the family to become quasi-family members adopted into an extended familial relationship. Traditional societies of hunters and gatherers live in such affiliative groups where everyone knows each other and where trust and pro-social relations prevail, persons of esteem being those who demonstrate pro-social engagement by their ability to comfort group members in distress, intervene as peacemakers in conflicts, and who are generous sharers. In addition, special skills such as speakers for the group, healers or war leaders count; but it is the pro-social competencies which count most. To lose social competence is to lose social status. Repressive dominance is not allowed to express itself within the group except in highly ritualized form, such as in song duels by which an insulted Eskimo can vent his frustrations. A bushman who tries to put himself above others by boasting about his success as a hunter is ostracized by his fellow group members. Repression in the form of collective aggression is permissible when directed against members of other groups. It was Bigelow² who hypothesized that this fierce inter-group competition enhanced the evolution of the human brain, whose size tripled from *Australopithecus* to *Homo sapiens*

within the last million years. Counted in numbers of generations (40- 50,000), this is a rapid change.

Competition also enhanced the pro-social abilities needed to forge inter-group alliances as well as for maintaining in-group solidarity, or what might be called 'pro-social intelligence' - the skill to manipulate others instrumentally.

Since those groups that were able to recruit more males for defence and attack were certainly better adapted for forceful competition, there was strong selection pressure towards large group formation. War as a strategically planned form of collective aggression fought with weapons and ideologically backed by indoctrination with a war ethos is a result of cultural evolution. It takes advantage of existing innate dispositions, which are tapped and culturally enhanced and modified, thus reinforcing group solidarity as well as demarcation from other groups. Identification via symbols and the reference to common descent are important techniques by which members of larger groups, such as ethnic nations, create feelings of belonging. It is interesting to note in this context that the 'sacred symbols' and the hymns induce the well-known feelings of being touched. The sacred awe is accompanied by a shudder, caused by the contraction of the minute *Musculi erectores pilorum*; these cause the erection of our body hair, particularly of the back and the outer side of our arms. We fluff, so to speak, our rudimentary fur in a sort of collective aggressive display in symbolic collective defence.

Historically, ethnic groups such as tribes or ethnic nations have followed the palaeolithic pattern of the small individualized groups. They have defined themselves as solidarity groups, demarcated from others and competing with others for land and other limited resources. As in the case of the primitive raiding strategy, organized inter-group conflict continued for most of history to aim at the destruction or subordination of competing groups. Those which were more efficient in their social techniques to unite people into larger groups - thus recruiting more males for attack and defence - had an advantage over others less efficient in this respect.

Ethnic groups grew naturally by propagation, by alliance formation between mostly closely related tribes, and by forceful amalgamation of tribes. Sometimes even less closely related tribes were incorporated by conquest, for example as slaves. If the subjugated differed not only culturally but also in their physical anthropology, assimilation met difficulties. Sometimes, different casts developed or segregation of minorities occurred.

Recently, it has become fashionable to call an ethnic group or a nation a construct. This has a large element of truth, since anonymous groups numbering in the millions are novel from an evolutionary perspective, and the identities of such groups are, to an extent, constructed by their élites, who emphasize and embellish certain myths, and attempt to include or exclude out-groups to achieve a variety of political and economic goals. As I argued as early as 1970 in the German edition of *Love and Hate*,³ modern nations are

partly built on constructed public rituals that use symbols of bonding and aggression; but the extreme constructionist position holds that there is *nothing but* embellishment and manipulation to ethnicity. One suspects that this view is motivated by a benevolent humanitarian intent to get back to cultural relativism, at least in this realm. By declaring the troublesome phenomenon of ethnicity to be merely a construction, we raise the prospect of getting rid of it through deconstruction, the argument being that since ethnicity is only fictive kinship, it is nothing to get excited about, and certainly no good reason to cause any harm.

Nevertheless, fictive kinship as such is a reality. After all, many Kurds, Armenians, Turks, and many others are prepared to sacrifice their lives in order to preserve their 'fictive' identity. So it is certainly not fictive in its effects! Pretending that ethnicity is infinitely malleable does not make it putty in our hands.

Despite some fictive elements, ethnicity has objective characteristics. Indeed, if we look at traditional tribal populations, they are usually fairly homogenous, after having grown to a larger size from a smaller population. The Bushmen or San of the central Kalahari are clearly distinguished from their neighbouring Bantus, not only culturally but also in many genetically determined, morphological characteristics, even though they had contact with Bantus for many hundreds of years.

Many tribal groups represent a unity culturally, socially, historically, and genetically, as well as by their own perceptions. Of course, nowadays one would rarely find a racially pure group. However, statistically, even modern ethnic nations represent gene pools distinguished from others since people preferentially marry within their language group. Cavalli-Sforza's investigations in this context are quite impressive.

In modern nations, the symbols that serve to unify the group are not arbitrary but draw on a phylogenetically evolved repertoire emphasizing kinship and familiarity. Since *Love and Hate* advanced this argument, much evidence has accumulated for the central role of kinship symbols in patriotic and nationalist rhetoric.⁴ However powerful these innate releasers are, they cannot paper over significant ethnic differences, as the history of multiracial societies attests. Even in countries with a common language and culture, such as the United States prior to the recent wave of Mexican immigrants, we find a great deal of voluntarily segregated neighbourhoods, assortative marriage, and ethnic politics.⁵ Humans have their individual critical faculties and are not easily convinced that groups that look and behave very differently are of common descent. This is the critical issue on which extreme fictive kinship theory proves inadequate.

It is true that modern nations such as the traditional ethnic ones of Europe are composed of people of different origins. Mediterraneans, Northern Europeans, and Eastern Europeans are amalgamated, to varying degrees. Still, European countries are still based on the majority nationality – or closely

related group of nationalities - that founded them, so that statistically, the Greek population is certainly different from the Scandinavian one. In time, these differences might disappear, even if the cultural differences and the languages survive. We simply do not know, since selection also takes place at the individual level and the individual fitness of northern Europeans might be less in the highly sunny Mediterranean environment. In any case, intra-European immigration usually has little effect on social cohesion, on the efficiency of kinship ideologies, because the ethnic populations of Europe are genetically very close to each other resulting in assimilation within one or two generations. The only obstacle to successful intra-European assimilation occurs when immigrants are slow to identify with the culture of the country of their choice. So far, this has not been a large problem, both because of genetic relatedness and because of the limited scale of migration.

From this theoretical perspective, anonymous, multi-ethnic societies numbering in the millions are expected to be more prone to conflict and less altruistic to low-status individuals. Since almost everyone is unfamiliar with everyone else in modern societies, we cannot rely on personal familiarity to engender sympathy, but instead on group-markers such as language, shared customs and culture, and signs of shared descent. The weight of evidence accumulating on the subject of ethnicity and welfare, as reviewed in this symposium, indicates that multi-ethnic societies are less caring, and this result is to be expected from an ethological perspective. Humans are not indiscriminate in apportioning altruism, and neither should they be expected to as products of natural selection. There is a universal grammar of human affiliation; a set of rules governing the release and direction of altruism.

What lessons are there to learn? With six billion human beings crowded on the planet, it is a reasonable hope that we can construct societies that stabilize growth, minimize conflict, and maximize pro-social behaviour. The evidence before us indicates that the ethological grammar of affiliation also applies at the level of whole societies, and that a world of optimal growth, peace, and altruism must be multicultural, with the various ethnicities respecting each other's right to exist. However, there is also a grammar of competition and hostility. A balanced understanding of human nature cautions us that multiculturalism is better constructed and maintained internationally, and not within societies.

International multiculturalism has many advantages over the intra-state kind with which the West has been experimenting for the last two or three decades. Even proponents of the latter kind must admit that it amounts to a 'bold experiment';⁶ the question is, whether millions of people and their ancient and diverse heritages should be made guinea-pigs when there is good reason to predict that the experiment will fail. Apart from the loss of public altruism as expressed in the decline of welfare, multicultural societies are frequently torn apart by ethnic discord in the political and economic realms. Ethnic federalism - decentralized government with effective local self-rule

demarcated at ethnic boundaries -- can solve the problem, as we see with Switzerland. This, however, accords with the general principle that when humans are given democratic choice, they choose to opt out of multi-ethnic states and form a 'truer union' in a relatively homogeneous nation-state in which their own ethnic group is the majority. This pattern is clear from the historical relationship between the spread of democracy and nation formation, and has recently received formal statistical support.⁷ As more societies become democratic, we can expect a proliferation of ethnic federations and nation-states, and this should be encouraged if one values cultural diversity.

In addition to these benefits, homogeneous societies are more likely to provide for the identity needs of the population, especially youth, whose identity is still forming. Hiram Caton observed at our Ringberg conference 'the positive effect that the acquisition of a strong group identity has on people. It instils pride, energy, commitment, a sense of power and well-being, and operational competence.'⁸ Caton was referring to many different kinds of groups, not just ethnic groups. However, like family, ethnicity is a basic form of identity that takes precedence over most others. Humans are evolved to think about the world using categories of descent groups, and there appears to be an innate tendency to develop such a perspective, as demonstrated by Lawrence Hirschfeld's⁹ ingenious psychological experiments with young children (luckily for the children, these experiments were not bold). A great deal of social psychological research, also involving considerable ingenuity, shows a universal tendency to place ourselves in a group and to value it above others. The nation-state should be more conducive to adaptive group identity than multicultural states.

The disadvantages of intra-state multiculturalism are as clear as the advantages of the international variety. When immigrants come in large numbers from distantly related ethnic groups, minorities stick to their ethnicity and compete with the autochthonous populations for scarce resources such as housing, jobs, and social welfare. This results in inter-ethnic competition, threatening internal peace. It also complicates international relations. Let me give two German examples. In 1998, the Turkish government tried to influence ethnic Turks of German citizenship to vote for a particular political party. Now the Kurds in Germany already act as a pressure group, so effective that the German government, who were seeking to arrest an individual for murder, withdrew their claim when he was arrested in Italy, due to the fear that Kurdish activists would cause trouble if they did not. The USA has experienced similar difficulties.

Another problem with intra-state multiculturalism is caused by differential birth-rates. Particularly when combined with high levels of immigration, there can be a dramatic shift in the ethnic composition of the population. From an evolutionary perspective this runs counter to the interests of the original group.

Intra-state multiculturalism has the added disadvantage of dissolving the constituent cultures in a common, typically impoverished, commercialized culture. After generations of political, economic, and psychological discord, a new homogeneity begins to emerge, as people intermarry and acculturate. One might argue that this is a high price to pay for a limited period of local diversity. Also, it is a disaster from the multiculturalist perspective, since the end result is the grey monotony of shallow commercialism, or at best, of one ethnic group's cultural dominance over several others.

Let me now apply this perspective to Europe, which has special significance for me as a European. There is no perceivable interest of nature in preserving Europeans or even mankind or life on our planet; but preserving ethnic identity – culturally and anthropologically – is a human right. When people are deprived of their right to speak their language, preserve their customs, and control their affairs, we speak of ethnocide. Genocide refers to the genetic extinction of a population. This need not necessarily entail forceful eradication. Spacing can also occur by transmigration and differential reproduction as it happens with clear political intent in some countries in tropical Asia.

Like any ethnic group, the European ethnicities also pursue a legitimate self-interest to survive and further develop – both as ethnicities and as Europeans. At the moment, we are experiencing the strange situation in which some of our politicians are dogmatically fixated on the misunderstood humanitarian principle of egalitarianism. As a result, they seek to persuade whole populations to open the gates to unrestricted immigration. This amounts to persuasion to ethnosuicide. The success of this kind of political advocacy is based on evolved nurturing motivations which are highly adaptive within the group and, indeed, within the context of all face-to-face, small-group community life. However, in an exaggerated form, this salutary motive becomes 'compulsive altruism' that attempts to nurture people everywhere, heedless of economic and political context. This compulsion seems to be pronounced in Western populations, and has done and is doing much harm in disrupting social and economic patterns in the developing world.¹⁰ It has already caused great difficulties for some European nations and threatens internal peace as well as our Western democratic system.

Similar developments are seen in the English-speaking countries. The world-wide population of European-derived people is dwindling. At the beginning of the twentieth century, this population amounted to about one third of the world population. Today it is about one tenth. The cause is that some non-European populations increase much faster than the European population. According to government projections, the European-derived population of the United States will be in the minority by 2060¹¹ (see Figure 13.1). Since Western civilization has contributed so much to the world in science, technology, economy, art, and in the promotion of concern for

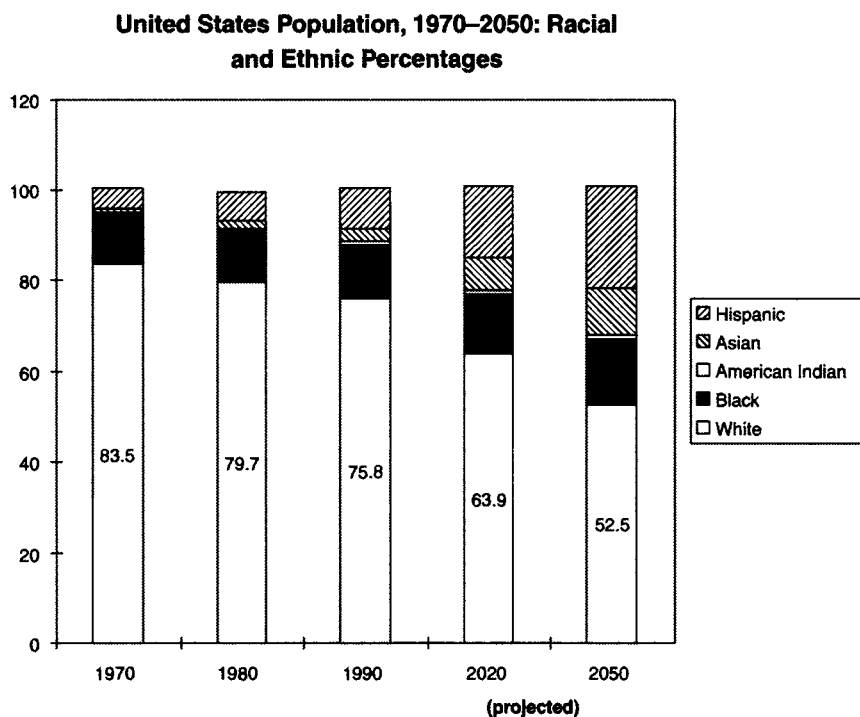


Figure 13.1: Projected US ethnic populations to 2050¹²

human rights and democracy, I doubt whether it would be profitable for the world community if we, for ideological reasons, favoured our own eclipse.

The survival of a multicultural world community should be one of the prime political goals of the world community. This survival is less at risk if we allow for federations of fairly homogenous ethnicities, provided of course that each of these adapts its population to the carrying capacity of its own country, and if each agrees upon an ecologically sensitive survival ethos that takes into consideration the fate of future generations.

NOTES

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2. R.S. Bigelow, *The Dawn Warriors: Man's Evolution Towards Peace* (Boston: Little Brown, 1969).
3. I. Eibl-Eibesfeldt, *Liebe und Hass. Zur Naturgeschichte elementarer Verhaltensweisen [Love and Hate. The Natural History of Behaviour Patterns]* (München: Piper, 1970).
4. W. Connor, 'Beyond Reason: The Nature of the Ethnonational Bond', *Ethnic and Racial Studies*, 16, 3 (1993), pp. 373–89; J.J. Holper, 'Kin Term Usage in The

- Federalist: Evolutionary Foundations of Publins's Rhetoric*, *Politics and the Life Sciences*, 15, 2 (1996), pp. 265–72; G.R. Johnson, 'In The Name of the Fatherland: An Analysis of Kin Terms Usage in Patriotic Speech and Literature', *International Political Science Review*, 8 (1987), pp. 165–74.
5. Several contributions to this volume document the effect of racial diversity on charity and welfare, summarized in F. Salter's introductory chapter.
 6. J. Lack and J. Templeton, *Bold Experiment. A Documentary History of Australian Immigration since 1945* (Melbourne: Oxford University Press, 1995).
 7. A. Alesina and E. Spolaore, 'On the Number and Size of Nations', *The Quarterly Journal of Economics*, 112 (November 1997), pp. 1027–56.
 8. H.P. Caton, 'Reinvent Yourself: Labile Psychosocial Identity and the Lifestyle Marketplace', in I. Eibl-Eibesfeldt and F.K. Salter (eds), *Ethnic Conflict and Indoctrination*, pp. 325–43, p. 327.
 9. L.A. Hirschfeld, *Race in the Making. Cognition, Culture, and the Child's Construction of Human Kinds* (Cambridge: MIT Press, 1996).
 10. C.M. Cassidy, 'World-View Conflict and Toddler Malnutrition: Change Agent Dilemmas', in N. Scheper-Hughes (ed.), *Child Survival* (Dordrecht: Reidel, 1987), pp. 293–324.
 11. J.C. Day, 'Population Projections of the United States, by Age, Race, and Hispanic Origin: 1993 to 2050', *Current Population Reports*, No. P25-1104 (US Bureau of the Census, November 1993). This projection was confirmed by a new analysis based on the 2000 census. See US Bureau of the Census, 'Tables NP-T4-G and NP-T4-H', downloaded from: <http://www.census.gov/population/www/projections/popproj.htm>, 1, in May 2001.
 12. Adapted from R.J. Harrison and C.E. Bennett, 'Racial and Ethnic Diversity', in R. Farley (ed.), *State of the Union: America in the 1990s*, Vol. 2, *Social Trends* (New York: Russell Sage Foundation, 1995), pp. 141–210.

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Affirmative Action: Towards a Sociobiologically Informed Social Policy

Pierre L. van den Berghe

The ideas and predictions presented here are derived from an analytical approach to human behaviour first developed by animal behaviourists and generally labelled 'sociobiology' or 'behavioural ecology'.¹ The basic assumption of this evolutionary model of behaviour is that all organisms are selected to behave in ways that maximize their fitness or reproductive success. In the case of social organisms, they do so in three principal ways.

1. *Nepotism*, i.e., favouring kin over non-kin, and close kin over distant kin, according to a simple formula of inclusive fitness maximization² that predicts nepotistic behaviour if the ratio of benefits to costs of the nepotistic act is greater than the reciprocal of the coefficient of relatedness (r). (The latter is the proportion of genes shared by common descent between ego and alter, e.g., 0.5 between parent and offspring in a diploid species, 0.25 between half-siblings, 0.125 between first cousins, etc.)
2. *Reciprocity* (or mutualism), i.e., engaging in mutually beneficial co-operative behaviour, but only so long as the beneficent behaviour is reciprocated.³
3. *Coercion* (or parasitism), i.e., compelling an organism to behave in ways detrimental to its fitness. In the human case, this is done overwhelmingly through the use of violence or the threat thereof.⁴

All three mechanisms of inclusive fitness maximization have been demonstrated to operate widely in human societies.⁵ Indeed, while human societies have a few unique or near-unique features, such as the transmission of much complex information through symbolic language, human modes of sociality differ more from those of other species in degree of complexity than in kind.

One notable human elaboration of nepotism is its extension to very large communities running into millions of individuals, that we call 'races' or 'ethnies'.⁶ Racial or ethnic groups are seen primarily as *descent* groups, with real or at least putative common ancestry. We tend to favour fellow ethnics or members of 'racial' groups because we believe that we share a common heritage with them. Indeed, we frequently use kin terms in reference to them, such as 'brother' and 'sister', and refer to our common nursing ground as the

'fatherland' or the 'motherland'. The *markers* of common ethnicity can be both genetic (such as skin colour, facial features, hair texture, etc.) or cultural (such as language, religion, cuisine, nationalist symbols, and so on), but, in both cases, the markers are chosen in terms of their accuracy, ease, and reliability in distinguishing members of a given descent group from outsiders. (Often, between neighbouring ethnies that look much alike, cultural markers such as dialect, accent, style of dress, etc. are more accurate discriminators than physical features.) Ethnic boundaries are both created and maintained by ethnic endogamy, which does in fact create multiple ties of kinship between fellow ethnics, and conversely, ethnies can dissolve if endogamy breaks down.

SOCIAL POLICY AND NEPOTISM

The crucial importance of the linkage between social policy and the socio-biology of nepotism is readily apparent. All states are in the business of using violence or the threat of violence to reallocate resources away from the primary producers and toward others; in the first instance towards those who control the coercive apparatus we call the state. 'Modern' states that claim to be democratic, however, also purport to redistribute resources between categories of citizens according to certain stated principles, such as 'progressive' taxation, child allowances, retirement benefits, medical coverage, veterans' pensions, and many others. Those stated principles governing the reallocation of resources are the core of a state's 'social policies', and these social policies, in turn, whether actually implemented or not, affect the interests of both individuals and numerous kinds of collectivities that make up the state: family groups, social classes, age groups, ethnic groups, and others. In short, social policies affect the calculus of individuals seeking to maximize their inclusive fitness. Often, social policies openly clash with nepotism, or differentially affect the interests of different groups of citizens, in ways that we shall analyse presently.

All states face a problem of legitimacy. They try to convince their subjects that states benefit not only those who control them, which is obvious enough, but the society at large, which is far less evident. Large, modern bureaucratic states that rule over millions of people in urbanized, industrialized societies face an even greater problem of legitimacy than smaller, pre-modern states, because power is impersonally exercised by bureaucrats who have virtually no ties with any but a few of their subjects. Modern bureaucratic states, therefore, claim to act by a set of rules that forbid those bureaucrats to behave naturally, that is, to use their power to enrich themselves, their relatives, and their friends at the expense of the rest of society. Bureaucracies, in short, pass universalistic codes of conduct stating that civil servants must apply the law without favour, treat all equally, and decline all attempts at bribery or subornation.

THE BUREAUCRATIC CODE

Since such a code of behaviour obviously violates the principles of self-interest, nepotism, and reciprocity that regulate the daily conduct of normal people in civil society, bureaucrats are seldom trusted to behave selflessly and impartially, and, indeed, that mistrust is often amply vindicated. In numerous states, the ruling class behaves as an almost pure kleptocracy: state power is used to extort resources from private citizens, and to enrich oneself and one's relatives and cronies. Among the most glaring examples of recent kleptocracies are Mobutu's Congo, Duvalier's Haiti, Marcos' Philippines, Suharto's Indonesia, and quite a few more. While in many states, the kleptocratic propensities of civil 'servants' (a pious misnomer!) are somewhat curbed, some level of corruption is nearly ubiquitous in modern bureaucracies.

The norms of universalism, impartiality, and equality can only be maintained under conditions of constant vigilance because they simply go against the grain of natural social behaviour, not only of humans, but of other social animals as well.⁷ In short, the bureaucratic code of conduct is a social contract in which the self-interests of each are sought by curbing the nepotism and reciprocal favouritism of all (except, of course, one's own, if one can get away with it). The bureaucratic code is, thus, an attempt at policing the distribution of social rewards in large, impersonal societies that face serious 'free rider' problems.

While the bureaucratic code is frequently violated, and while individuals are often powerless to enforce it against those in power, it is nevertheless a sufficiently expedient neutralizer of special interests to have been extended beyond the relations of the state and its citizens, to private bureaucracies such as in business and education, and indeed to relations *within* these bureaucracies (as in rules for promotion, salary increase, office space, and other social rewards). Sure, ministers steal, business people embezzle, and students cheat, but they are less likely to do so if the risk of detection is high and the punishment swift. In the absence of detection of, and sanctions against, violations of the code, the latter instantaneously breaks down because it is so unnatural. The entire fabric of normal social life is made of special relationships between spouses, between kinsmen, between school pals, between army buddies, in short, between individuals linked by either genetic relationship or mutual choice.

It should also be noted that the bureaucratic code is not a certain formula to avoid accusations of bias. Indeed, the supposedly universalistic criteria for distributing resources are largely chosen by those in power, and are thus open to the criticism that they indirectly favour certain groups at the expense of others. Take merit as measured by test performance. While the test may be ostensibly 'objective', it is administered in a language not equally familiar to all takers, and measures knowledge not equally likely to be acquired by all. Tests, in short, can be, and often are, culturally biased. Predictably, they will

be favoured by groups expecting to do relatively well on them, and opposed by groups expecting low scores.

Or take means-tested welfare programmes such as food stamps or aid to families with dependent children in the United States. If certain groups (e.g., blacks) are widely perceived to be disproportionately recipients of such state support, these programmes are likely to be opposed or curtailed by groups that assess themselves to be unlikely beneficiaries (e.g., middle-class whites).

Even ostensibly universalistic rules are, thus, subject to a nepotistic calculus of who benefits most by whatever criteria are used, and however impartially they are applied. The criteria themselves then become the target of criticism, but the strategy of attack is generally to modify the criteria so as to make them less discriminatory and more inclusive, rather than to suspend any pretence of universalism and exempt or give special treatment to certain groups, as is done in the United States under 'affirmative action'. I would predict, for instance, that easing everybody's admission standards to a university would generate less opposition than doing so unequally for different racial groups, now a common practice at most US colleges and universities. (Academics, especially at élite institutions, are the exception: most are happy with a combination of continued élitism and reverse racial discrimination.)

The unnatural social contract of the bureaucratic code entails corollaries that enable one to predict accurately the degree of acceptance or rejection of policies, especially policies concerning the allocation and redistribution of social resources (such as education, income, health services, childcare, and welfare):

1. Social policies based on universalistic criteria such as test performance and diplomas are supported by those who expect to do well by these criteria and opposed by those who expect to do poorly. Thus, the academically challenged are more likely to favour open admissions in universities.
2. Social policies based on universalistic criteria are supported to the extent that their potential beneficiaries are perceived as people like oneself (e.g., on the basis of race, ethnicity, class, or religion), and opposed to the extent that their beneficiaries are seen as unlike oneself. Thus, the irreligious and members of minority religions are more likely to support a strict separation of church and state than members of dominant religions.
3. Social policies based on particularistic criteria such as ethnicity, race, language, gender, or age are accepted or rejected depending on whether one feels included or excluded by these criteria.

THE POLITICS OF AFFIRMATIVE ACTION

Let us now apply our predictions to a set of policies, generally called 'affirmative action', that would fall under the third category above.

Affirmative action (hereafter, AA) policies are purportedly designed, according to some concept of equity, to achieve *equality of results* or *proportional representation* between *categories* of people who are initially unequal according to some indices, and to do so by applying *differential criteria* of selection to these different categories of persons. AA, in short, is a set of policies allegedly designed to achieve, in the name of equity, group equality of results through group inequality of treatment.

AA policies have several interesting properties that make them highly contentious and fraught with conflict:

1. They depart from the bureaucratic code of *equal* treatment of *individuals* according to universalistic principles such as rights, merit, seniority, ability, education, qualification, or economic needs, and add or substitute *group* affiliation as a criterion for *unequal* treatment. AA justifies inequality of treatment by inequality of social situation, and defines the latter by membership in a social category.
2. AA generally *coexists* with a bureaucratic code of equal, universalistic treatment of individuals with which it clashes, leading to numerous jurisdictional disputes as to scope of applicability of each of these conflicting principles. As George Orwell satirized the contradiction in *Animal Farm*, 'all animals are equal, but some are more equal than others.'
3. The definition of the social categories to which AA applies is often arbitrary, ambiguous, manipulable, debatable, or more than one of the above. Thus, the very definition of the categories creates politics of contentiousness, competition and conflict.

Let us now specify how these conflicts and contradictions unfold, and how people can be expected to align themselves, based on the expectation that organisms behave self-servingly, using nepotism, reciprocity, and coercion to maximize their individual inclusive fitness.

Obviously, attitudes towards AA can be expected to vary widely, depending on how they are perceived to affect one's own opportunities and those of one's kin, spouses, and others with whose welfare one's own interests are tied. The consequences of, and reactions to, AA vary in at least two important dimensions. The first is the nature of the criterion used to qualify for AA. The second has to do with whether the principal enforcers of AA belong to the same or to a different social category from the beneficiaries.

CRITERIA FOR AFFIRMATIVE ACTION

A multiplicity of criteria have been used to determine categorical qualification for AA, some widely accepted as equitable, others widely resented. Highest on the scale of social acceptability of AA criteria have been categories that are most *unrelated to descent groups*. These include preferences for

war veterans, especially when the wars were fought under a system of universal male military service. War veterans, presumably drawn from all races, ethnic groups, and social classes under an involuntary draft system, are widely seen as justly deserving compensation for time 'wasted', or handicaps acquired, while in armed service. With a volunteer, mercenary army, however, social support for such preferences can be expected to be much lower because the beneficiaries of the policy would extend to much narrower social categories.

Another form of AA that receives wide social support is preference for, or allocation of social resources to, certain *age* categories, such as child support, pre-natal care, day care, public schools, and various forms of senior discounts, tax exemptions, and the like. Age preferences are especially uncontroversial if they are not means tested, that is, potentially benefit oneself or one's kin at some stage of their life cycle. It is easy, for instance, for a forty-year-old to support age-based social security, because most forty-year-olds expect to benefit from it at the age of 65, or to support public schools because most adults have children or grandchildren who are actual or potential beneficiaries. Any conditions, however, that reduce the actuality or the expectation of universality in the allocation of the benefit quickly reduce the basis of social support. Such conditions include growth in the proportion of childless adults, flight of the middle class from deteriorating public schools, or projections of future bankruptcy for age-based social security.

The case of social security in the United States is a good example of a widely popular programme, even though it is, in fact, a slow-motion pyramid scheme. So long as most recipients ended up getting more out of the system than they put into it, which was the case for a half century or so, social security was largely unopposed. Now that this unsustainable pay-as-you-earn system will have to be modified, opponents multiply, and support for independently funded retirement accounts escalates.

Yet another AA criterion that is fairly high on the scale of acceptability, though not as high as age, is gender preference. Unlike age categories, to which most people can realistically aspire, sex is ascribed at conception and virtually unchangeable. Therefore, many women have resented preferences for men in the past, as many men currently resent AA for women. Sex, however, has the winning property of closely proportional representation across other social categories, such as class, ethnicity, race, and age (except for the old, who are disproportionately female). Therefore, opposition to gender-based AA is greatly mitigated by the fact that the vast majority of people in the 'unpreferred' category have children or spouses who are actual or potential beneficiaries.

This is obviously true under current AA policies of favouring women to compensate for past sex discrimination against them. In fact, the widespread assumption of both men and women is that both sexes, while strikingly different in some respects, are approximately *equal* in most abilities (or that, if

some abilities are somewhat sex-linked, the advantages are not one sided, e.g., men are better at some things, such as spatial perception and muscular strength, and women at others, such as verbal ability and acuity of smell). Moreover, both sexes generally agree that men and women should be rewarded equally according to their abilities. Gender-based AA is generally perceived as, in fact, eradicating a real gender bias against women, rather than giving less-qualified women a more than equal chance (except in a few cases, such as fire-fighting or the military, where strength requirements have sometimes been lowered for women below those expected of men). There is also evidence⁸ that, insofar as AA in the United States has been successful, its beneficiaries have been mostly women rather than racial or ethnic minorities. These results are probably not unrelated to the much wider acceptability of gender-based AA, compared with race- or ethnic-based AA.

What is perhaps most striking about gender-based AA is not only its wide acceptability, but its continued coexistence with an older and somewhat contradictory model that men and women, though of equal *worth*, should, in some respects, be treated *differently*, because they *are*, in fact, different. Very few, if any, feminists would consistently advocate a totally gender-blind unisex society. For instance, what feminists have argued that gender segregation (and gender testing) should be abolished in all Olympic and other competitive sport events? How many have branded as iniquitous the fact that young men have to pay higher automobile insurance premiums than young women, or that men should pay higher life insurance premiums than women of the same age?

It is, of course, unremarkable that feminist women should accept continued gender discrimination when that discrimination favours women, as in the examples just cited, but it is also the case that a great many women continue to favour a sexual division of labour in the household, in which men and women contribute and co-operate in strikingly different ways to produce successful offspring, and continue to socialize these offspring to perform strikingly differentiated gender roles.

The model presented here, however, predicts which women are likely to find themselves on which side of this ideological divide. We predict that younger, more educated, single, childless women are more likely to adopt the 'equal-period' model of gender relations, while women having the opposite characteristics are more likely to embrace the 'equal-but-different' model. Furthermore, we would predict that the sex of a parent's children would be a predictor of both a parent's ideological stance and of his or her socializing practice. Parents of only boys would be more likely to opt for the traditional model; parents of only girls would adopt the more unisex model; and parents of children of both sexes would be more ideologically inconsistent and would tend to raise their boys to be boys, and their girls to be liberated.

Going down the scale of acceptability of AA criteria, we find some preferences in admission widely practised by institutions such as colleges and

universities, for such social categories as athletes or children of alumni. These forms of AA were rampant long before they were labelled as such, and indeed, are frequently used as precedents by current advocates of racial or ethnic AA. Support for them, however, was far from unanimous, though, once more, clearly predictable. Athletic preferences are most blatant at state institutions where spectator sports are the circuses of academe, supposedly essential to school spirit and alumni loyalty and donations. They have long been opposed, however, by the faculty who have to suffer the consequences of trying to educate the ineducable and tolerate the intolerable. As for the 'legacies', as children of alumni are called, this form of AA has been surreptitiously practised primarily by craven and greedy administrators of private schools, and largely restricted to the children of *rich* and *generous* alumni, over the disgusted disapproval of both students and faculty, in the belief that only by favouring 'legacies' do rich schools stay rich.

We come at last to the most controversial forms of AA, namely those based on race or ethnicity, which almost invariably provoke serious conflicts, bring, at best, mixed results and sometimes elicit vicious backlashes. Both race and ethnicity, of course, *do* run in families and categorically include or exclude one's kin, one's spouse where endogamy is prevalent, and even most of one's friends and acquaintances, since racially or ethnically pluralistic societies also tend to be socially and spatially fragmented. Of the two criteria -- race and ethnicity -- the former is even more invidious and resented since physical appearance has a large genetic component and is least changeable. One can, given a few years or a generation, learn a new language and assimilate to another ethnic group. Besides, ethnicity is not intrinsically invidious and stratified in the way that race is. In societies where physical appearance is a basis of group formation, these groups are invariably stratified, and one or more of them is *stigmatized*. Ethnically pluralistic societies, on the other hand, can be stratified as well, and some ethnic groups can be stigmatized (e.g., Gypsies or Romanies in Europe), but ethnic distinctions are not necessarily invidious (e.g., between French, German, and Italian Swiss).

Thus, because race or ethnic AA categorically includes or excludes large categories of people which correspond not only to more or less endogamous descent groups, but also to social communities of friends, associates, and neighbours, it invariably heightens consciousness of belonging to these groups, reinforces group boundaries, and exacerbates inter-group conflicts. In short, race or ethnic AA is inherently polarizing.

ENFORCERS OF AFFIRMATIVE ACTION

The consequences of, and reactions to, AA vary not only according to the criteria of qualification for AA, but also by whom the enforcers of AA are.

The fundamental distinction here is whether AA is principally imposed and enforced by people who belong to the same social categories as its beneficiaries, or whether enforcers and beneficiaries belong to different groups. The first case is the most straightforward and the least problematic, and we shall begin with it.

There are a number of societies, often post-colonial ones, where an ethnic, linguistic, or religious group is numerically and politically dominant, but economically and/or educationally 'underprivileged' compared to demographic minorities. Examples of privileged minorities in post-colonial societies are whites in South Africa, east Indians in Kenya, Tanzania, and Uganda, Tamils in Sri Lanka, and Chinese in Malaysia and Indonesia. Such groups have often been delegitimized by politically dominant majorities as being foreign interlopers, even after centuries of presence in their respective countries. The indigenous 'sons of the soil' often use their political power to implement AA in favour of their own group in the redistribution of such resources as land ownership, trading licences, places in universities and the civil service, and countless other goods and favours under state control. The object is to exclude the despised 'foreign' groups, in extreme cases through genocidal massacres, expulsion, and expropriation, but more frequently through less drastic measures such as systematic hiring preferences, double standards of admission to universities, and ethnic restrictions on certain types of businesses. The most common rationale for justifying such ethnic AA is the equity of proportional ethnic representation, but the result is gross ethnic discrimination, often accompanied by blatant intimidation and extortion. Not uncommonly, violent clashes (as currently against the Chinese in Indonesia) or civil wars (as for over a decade in Sri Lanka) result.

Despite such dire consequences, such AA policies, imposed by the ruling élite of a politically and demographically dominant group against economically or educationally privileged ethnic minorities, are highly predictable because they serve the interests of the enforcers in at least two different ways. First, they eliminate or, at least, reduce ethnic competition for élite positions in education, government, and the economy for members of the political élite who have the 'right' ethnic qualifications. Such ethnic AA is directly self-serving for the 'indigenous' élite that controls government. Second, such discriminatory ethnic AA against privileged minorities is generally quite popular among the masses of the politically dominant ethnic majority, even though they rarely benefit individually from the policies. Only the political élite benefits materially, educationally, and politically, but the masses achieve the psychic reward of revenge against hated minorities and of seeing fellow ethnics accede to top positions. Besides their populist appeal to the basest prejudices, such ethnic AA also serves the purpose of deflecting popular discontent onto scapegoats and distracting attention from a country's more deep-seated and intractable problems.

However, there is a more puzzling form of ethnic and racial AA, namely one imposed by the political, social, and economic élite of a dominant majority group, ostensibly to benefit not itself but underprivileged minorities. Such is the case, for instance, in the United States and Canada, and this form of AA is usually explained in terms of guilt atonement and redress for past injustice. At first blush, guilt atonement AA runs inconsistent with the 'selfish maximizer' model that has been used thus far to explain the reactions to, and consequences of, AA. Instead of self-serving policies, we have here the appearance of benevolence of the privileged and powerful towards the 'wretched of the earth', to use Frantz Fanon's phrase.⁹ As always, for a sociobiologist, the appearance of altruism begs for closer scrutiny. We must, therefore, look more closely at who implements the policy, who benefits from it, and who pays the cost of it. We shall focus the analysis on US race- or ethnic-based AA as practised since the early 1970s.

Certain groups, categorically defined by race or ethnicity, especially 'African Americans', 'Hispanics', and 'Native Americans', deemed to have been the victims of racism and discrimination in the past, are now defined, collectively and categorically, as worthy recipients of compensatory benign discrimination such as preferential hiring, government contract allocation, admission to colleges and universities, and the like. Proponents of such AA emphatically deny that they seek to establish racial or ethnic quotas, but, in fact, racial or ethnic proportionality arguments are constantly invoked, and double standards are blatantly applied to whites and 'people of colour' (a generic racial label often applied to all 'disadvantaged' groups, whether ethnic or racial).

Besides the need to 'level the playing field', and to achieve proportional representation by race and ethnicity in all occupational, educational, and political niches of American society, other justifications for such AA have been the celebration of diversity (defined principally in terms of skin pigmentation) and 'role modelling' (based on the theory that the underprivileged, and especially the youth among them, must be able to admire exemplars who look like them). In the ideal proportional representation society every constituent body, from the federal cabinet and Congress, to college faculties, television announcers, discussion panels, actors in advertisements, and boards of directors of corporations, must be reshaped to 'look like America', to use Bill Clinton's phrase describing the window-dressing of his cabinet.

Let us now answer the key questions necessary to explain this aberrant case of apparent altruism.

1. Who are the enforcers of this AA? Clearly, they are the political, educational, and business élites that control dominant institutions in American society, such as various organs of government, higher education, and private corporations. These élites are still made up principally of older white males, but now with a window-dressing

admixture of 'others'. It is worth noting, however, that, since the enforcers are already the incumbents of secure high-level positions well sheltered from the slings of outrageous fortune by tenure, seniority, stock options, and other hallowed cushions of elite status, they barely, if ever, must pay the costs of AA. *Their* jobs are scarcely ever on the line. Thus, they can well afford to push such unpopular policies in contemptuous disregard of their respective constituencies: voters, employees, stockholders, union members, students, and so on. If such AA is motivated by guilt-atonement, it is done on the cheap by elites who are well sheltered from paying the cost of their policy. They are not altruists, though they like to masquerade as such.

2. Who are the beneficiaries of such AA? They are clearly not those whom William Wilson¹⁰ has called the 'truly disadvantaged', in reference to the black underclass in America. Rather, the recipients of 'reverse discrimination' have overwhelmingly been those 'people of colour' who were already middle class and well educated, and who, therefore, already shared some of the status characteristics of those who sought to co-opt them for entry into the newly 'diversified' elite. History has shown that the most resilient elites have been those who have successfully co-opted outsiders. In large part, this kind of AA has been an elite co-optation tactic.
3. Who pays the cost of this AA? First it must be stressed that since this AA has had quite a limited effect and has been mostly of the nature of window-dressing tokenism, the total cost has not been as high as many people have assumed. It may have marginally raised the level of inefficiency and incompetence in organizations already riddled with such, but the aggregate effect of AA is barely measurable, both for its proponents who seek to demonstrate its benefits, and for its opponents who attempt to document its defects. Practically, the structure of American institutions has been left remarkably unchanged by AA, which cynics might argue, was the very *intent* of the policy. If anything, race and ethnic AA has reinforced racial and ethnic consciousness and boundaries in American society. The US remains as race-obsessed as ever and AA ensures the perpetuation of the chasm. Plus ça change, plus ça reste la même chose.

Nonetheless, some better qualified, more meritorious, or more senior people of the 'wrong' group do not get hired, promoted, or admitted because of AA. They tend to fall into one or more of the following categories: young, white, male, working-class, Jewish, or Asian-American. Indeed, some of the 'racial' minorities, notably Asian Americans, have been the victims of *restrictive* quotas at exclusive institutions as the University of California for instance, on the rationale that they were 'too successful'. (This is a sinister replay of surreptitious anti-Jewish quotas in the Ivy League before World War II.)

More importantly, many of these people who would not have been hired, promoted, or admitted even without AA, understandably assume that they 'lost out' to an AA candidate because they read or hear about a number of such AA candidates who got hired, promoted, or admitted with lower qualifications than theirs. The gap in racial admission standards in such élite institutions as, say, Harvard Business School, Yale Law School, or Johns Hopkins Medical School is so large that many whites have qualifications well below the 'general' admission standard, but well above some of the 'minority' admits. For example, a score of 80 per cent ensures rejection if you are white, but admission if you are black. Needless to say, this creates widespread anger even though the actual cost of AA to individual whites is relatively small, or primarily psychic.

Nathan Glazer,¹¹ a former opponent of AA, has recently reversed his position and now advocates a guilt-atonement model of AA for blacks, on the simple ground that race-blind admissions at élite colleges and universities would result in only a 1 or 2 per cent black representation. This, says Glazer, is simply unacceptable. Why, one may ask, would this outcome be any more unacceptable than the gross under-representation of whites in that other kind of highly élitist and meritocratic institution, the National Basketball Association? The evidence is not, as Nathan Glazer condescendingly suggests, that blacks cannot 'make the grade' without AA, but rather the opposite. Namely, in those highly competitive fields where blacks have excelled, such as sports, music, and entertainment, they have done so conspicuously without AA. Where they have done poorly, say in mathematics or nuclear physics, AA did not help.

CONCLUSIONS

We have reviewed a wide array of AA policies as special cases of policies by which states allocate scarce resources according to certain principles. Like much else about human behaviour, the politics of social policy are best understood within the theoretical framework of behavioural ecology, i.e., individuals can be expected to evaluate social policies by how much these policies contribute to maximizing their individual inclusive fitness and by how well they restrict the fitness of competitors.

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The Evolutionary Deficit in Mainstream Political Theory of Welfare and Ethnicity

Frank Saller

In this chapter, I review the use of evolutionary theory by major political theorists writing on welfare and ethnicity. I find much content that is consistent with the findings of this volume, namely assertions that ethnic diversity undermines welfare. Furthermore, these thinkers are repeatedly drawn to discussion of kinship, a concept central to sociobiology. The welfare state is likened to a big family dependent on feelings of relatedness. Yet these claims lack all but anecdotal support and make no use of evolutionary theory or other biological concepts. Most references to kinship and welfare can be traced back to the intuition of one influential theorist: Michael Walzer. The connection between society and biology is left begging. This empirical and theoretical neglect may have contributed to confused policy analysis, which I also remark.

While Darwinian theory has made inroads into the social sciences, mainstream political theory and in particular the analysis of welfare remains largely divorced from biology. For example, O'Brien and Penna¹ examine seven approaches to welfare theory without mentioning modern biological theory or the main disciplines that connect it with social phenomena: ethology, anthropology, and psychology.² Altruism, kinship, fitness, and reciprocity are not indexed. Biology, including evolutionary theory, is also conspicuously absent from the works of leading political theorists Bill Jordan, Michael Walzer, and David Miller;³ leading social theorists whose writings deal with state welfare. Yet evolutionary concepts are begged by the last two scholars in their making of a common-sense analogy between family and welfare state, as discussed below. Due to lack of examples this chapter cannot discuss the use of modern evolutionary concepts in mainstream political theory. Rather, I discuss a few places in which that theory approaches the threshold of biology and the associated confusions in policy analysis that perhaps inevitably result when theorists avoid scientific concepts and data in favour of vague analogy.

A topical place to situate the discussion is the debate over the welfare policies enacted in the 1990s in the United States and the United Kingdom by centre-left governments. A useful tour of the debate is conducted by Bill Jordan in his recent book, *The New Politics of Welfare: Social Justice in a Global Context*. Jordan's text is a suitable object of review for this purpose because he relies on leading theorists of welfare. I use Jordan's analysis as a base of

operations from which to reconnoitre related issues in his text. A major detour scouts out the ideas of Michael Walzer, during which I discuss several theorists who agree with and criticize his ideas.

Jordan leads with the argument that the Clinton-Blair approach to welfare is best seen as a response to the rise of international capitalism since the 1980s. Wealthy and professional individuals can choose to move their capital, skills, and households around the world, as can many individuals from poor societies who are willing to forgo citizenship rights in order to benefit from black (unregulated) market employment in wealthy countries. The result is that welfare states are losing their ability to enforce contributions from wealthy taxpayers and from industry, and instead must compete with other countries to attract investment and skilled migration.

This is the reason, Jordan argues, that Clinton in the United States and Blair in the United Kingdom introduced welfare policies that break with the traditional social democratic goals of wealth equalization achieved through monetary grants. Instead, the new orthodoxy, as Jordan refers to it, emphasizes reform of labour markets by ensuring equal opportunities and availability of life-long learning. Associated measures include the authoritative enforcement of standards of discipline and work, as well as tough means testing of benefits. The hope is that these measures will increase national wealth by saving expenditure on benefits and getting the long-term unemployed back to work. The welfare aim is to optimize the well-being of disadvantaged groups by avoiding the harm of inflicting dependency and maladaptive life-styles that are fostered by monetary benefits.

Jordan argues that the Clinton-Blair approach to welfare entails national mobilization based on a moralizing rhetoric that draws on the obligations and rights of the family, neighbourhood, and community, and applies these obligations and rights to the whole society.¹ Interestingly, this rhetoric does not make use of probably the most powerful primordial virtue: that of filial piety (or familial solidarity). Numerous studies in anthropology and psychology find that kinship ties are strong and lasting, and usually reflect genetic relatedness of the family, clan, or ethnic group.² Jordan does not make a point of this, although towards the end of his book he makes the following observation:

Welfare states are conceived as closed systems, with boundaries that distinguish members (supposed to be both contributors to and beneficiaries from collective goods) from non-members. Distributive justice requires some moral basis of kinship or fellow-feeling, or some other grounds for favouring the claims of some and excluding others, in the division and sharing of the resources of the membership group.³

The authority to whom Jordan attributes this view is Michael Walzer,⁴ a major theorist and defender of ethnic pluralism. Neither Jordan nor Walzer

has a theory of why kinship and ethnic identity exert such strong loyalty, or are so persistent as social categories. Neither considers the evolutionary origins of kinship and communal ties, and therefore both fail to ask certain questions about the connection between shared ethnic identity and welfare rights. As Jordan notes, however, '[b]oth migration and transnational allegiance to ethnic or religious groups make it hard to reach consensus on distributive justice'.⁸ There would appear to be a need for a theory that connects the motive power of kinship and ethnicity to the politics of trust and altruism as found in the welfare state.

Since Walzer is Jordan's sole link to kinship, a core concept in ethnic nepotism theory, I shall pause to enlarge on Walzer's ideas about kinship and welfare. The discussion leads into the work of other leading theorists of welfare, Gary Freeman, Brian Barry, Anthony Giddens, and Peter Schuck, before returning to Jordan. Despite lack of biological and psychological theory, Walzer recognizes some connection between a sense of community and a sense of welfare obligation. He argues that countries do not have the right to deny entry to refugees escaping persecution, but do have the right to stop economic migrants when this would undermine welfare sentiment: 'The idea of distributive justice presupposes a bounded world within which distributions take place: a group of people committed to dividing, exchanging, and sharing social goods, first of all among themselves. ... The primary good that we distribute to one another is membership in some community.'⁹ He quotes the nineteenth-century political philosopher, Henry Sidgwick,¹⁰ to the same effect: immigration can be restricted morally when it would reduce the government's efforts to maintain adequate living standards of the people, especially the poor.¹¹

Walzer has some relevant things to say in connecting welfare and kinship. The strongest state of welfare is the family. '[T]he family is a kind of welfare state, which guarantees to all its members some modicum of love, friendship, generosity, and so on, and which taxes its members for the sake of the guarantee. Familial love is radically unconditional....'¹² Further: 'Getting and spending belongs to the sphere of money and commodities, and is governed by the principles of ... freedom. But the distribution of the family estate belongs to another sphere – the sphere of kinship – which is governed by principles of mutuality and obligation.'¹³ Walzer devotes a whole chapter to developing his theory of distribution based on 'kinship and love'. He reports from anthropology that important distributions are carried out within the family and within alliances of families. He notes the variation in types of familial distribution, including dowries, gifts, inheritances, alimony, and many other types of 'mutual aid'. Walzer concludes that these benefits are motivated by universal rules of kinship that are deep but not permanent, since kinship loyalty is culturally determined. Note that this cultural determinism is simply asserted, with no support from psychological or biological theory of kinship motivation. Yet any theory of human kinship

motivation that would dismiss instinct as a contributing factor must explain why humans share the kinship altruism found across all social species, from termites to naked mole rats, and why, despite great cultural variation, kinship is central to human social organization everywhere.

Walzer continues his argument by noting that ethnic groups behave something like families. For example, people prefer to take immigrants from those they recognize as 'national or ethnic "relatives"',¹⁴ and although people will accept and tolerate refugees from strange ethnic groups or adopt children from other families, 'our more spontaneous beneficence is directed at our own kith and kin' (ibid.). Both Walzer¹⁵ and Miller¹⁶ recognize the family as the original social locus of intensive solidarity and redistribution. Both authors defend some types of nationalism as means for preserving a welfarist society, partly justifying this position on the analogy between nation and family. Walzer¹⁷ notes the ethnic fragmentation of the United States, and draws a negative analogy with the family.

[T]he United States isn't a *patrie*. Americans have never spoken of their country as a fatherland (or a motherland). The kind of natural or organic loyalty that we (rightly or wrongly) recognize in families doesn't seem to be a feature of our politics. ... [T]he United States isn't a 'homeland' (where a national family might dwell), not, at least, as other countries are, in casual conversation and unreflective feeling. It is a country of immigrants.¹⁸

Walzer, however, does not draw the logical conclusion that securing welfare rights will be more difficult in such multi-ethnic societies as the United States, which lack 'natural or organic loyalty', compared with those that do possess such feeling. This conclusion is not reached despite his observation that the family metaphor is applied to the United States by politicians urging citizens to take more seriously their 'mutual responsibilities and welfarist obligations'.¹⁹ Elsewhere, and much earlier in his career, Walzer noted that citizens are expected to give some degree of 'commitment or loyalty'.²⁰ Even at this early phase of his thinking, he added the perceptive question, 'but to what?' Not to *la patrie*, not to a fatherland or a motherland, not to a nation, since the United States is not a nation but an ethnically diverse land of immigrants. Old World commitments to country are not to be asked or expected of United States citizens. Yet, for society to be viable, citizens must be willing to defend their country, even give their lives in doing so. They must obey the law, and show basic civility to fellow citizens. And in a multi-ethnic democracy, it is necessary that citizens practise tolerance and participate in the political process. Walzer detects something missing in the ideal liberal state, which offers few emotional rewards by virtue of not being a homeland; not a nation. He thinks that the desire for warmth and intimacy in public life is dangerous, since it is incompatible with liberalism. It would be

dangerous to attempt to build 'social cohesion and political enthusiasm' using state power. Nevertheless, Walzer admits that 'the hard truth about individualism, secularism, and toleration is that they make solidarity very difficult'.²¹ It also appears to be difficult to exact liberal ideals, such as a high rate of political participation in the form of voting, in a fragmented society.²² Two decades later, Walzer still had not made the connection between this insight and the American problem with welfare, nor had he developed a theory of human solidarity that might generate testable hypotheses about welfare behaviour. Instead, he argued that state power was bound to increase in the United States as 'a necessary and natural antidote to liberal disintegration',²³ and that allegiance to society must be a narrow political allegiance divorced from ethnic and spiritual sentiments. Narrow indeed: Walzer is unsure whether a community of patriots can be sustained by politics alone. He recognizes the dysfunctions of pluralism, even according to its own standards, and asks: '[H]ow can a common citizenship develop if there is no other commonality – no ethnic solidarity, no established religion, no unified cultural tradition? ... Given liberal society and culture, certain sorts of dedication may well lie beyond our reach';²⁴ and if so, state power will naturally grow to counteract 'liberal disintegration'. Walzer avoids pessimism by reaffirming his belief in the desirability and possibility (though hardly the probability) of raising political participation and commitment within a pluralist state.

The American political scientist, Gary Freeman,²⁵ is one analyst who has explicitly recognized ethnic diversity as a threat to welfare rights. His analysis makes heavy use of Walzer's *Spheres of Justice*. Freeman notes that welfare rights arose in the context of 'particular national states', culminating in the development of civil, political, and social rights. With Walzer, Freeman argues that the welfare state 'requires for its moral base some aspect of kinship or fellow feeling ... a sense of solidarity that comes from common membership in some human community';²⁶ and like Walzer, he maintains that preservation of a generous welfare state entails limiting access to its benefits.²⁷ Freeman, however, completes the logic. 'The openness of national economies poses enormous challenges to the viability and character of welfare states.'²⁸ Pre-empting Faist,²⁹ Freeman observes that large-scale immigration creates opportunities for nationalist politicians to appeal to local ethnic sentiment to either restrict immigration or welfare rights.³⁰ In Europe, the result has been the 'Americanization of welfare politics', as native workers 'organize to resist the invaders' and nationalist politicians exploit the rising tension. Like Faist, he believes that immigration is a problem for the Left, since it has eroded the general normative consensus on which the welfare state is based. 'The injection of race into European welfare politics ... bodes ill for the future of the welfare state in a time of severe fiscal stress.'³¹

Pluralists and ethnonationalists alike acknowledge the connection between welfare and the solidarity of the group within which wealth is to

be redistributed. The connection is given back-handed recognition by critics of welfare who argue from individualism or from the position of particular group interests. The implicit and sometimes explicit message is that since a duty to share does not exist, the individual or preferred group should 'look out for itself'. Radical individualism in the Anglo-American tradition is suspicious of any dependence on government. In this view, the notion that people have a right to food, shelter, health care, retirement income, and other benefits is injurious to the value of independence; welfare rights are incompatible with freedom, justice, and benevolence, and damage the welfare of those they make dependent on government.³²

Walzer's qualified nationalism is criticized from a cosmopolitan perspective by the senior political theorist Brian Barry,³³ who seeks to formulate ways of maximizing redistribution from rich to poor within and especially between countries. Barry attempts an ethical analysis of types of nationalism, and in doing so pays some attention to Walzer's³⁴ and Miller's³⁵ emphasis on the family as the proto-welfare state. He rejects this approach to understanding the prerequisites of redistribution. Barry considers the nation-family analogy to be 'dangerous', while conceding that family members have more obligations to one another than to non-family members.³⁶ His criticism is based on heavy use of moral concepts and effectively no use of empirical concepts. For example, rather than describing actual behaviour of national solidarity and peoples' sense of loyalty to their nations, he seeks to evaluate such feelings a priori: '[T]here is nothing about common nationality as such that can make contact with any morally compelling basis for ascribing special obligations.'³⁷ The a priori moral assertion is central to Barry's argument. Like Walzer, he offers no theory of the nature or origin of the sense of familial obligations, and their connections to national obligations. This is not surprising because he has no theory or even definition of family and nation. Barry's statement that there is no natural reason for biological parents to be preferred as the prime care-givers³⁸ makes no attempt to meet the countervailing evidence from studies of child abuse,³⁹ the greater nurture in general shown by natural as opposed to step-parents, the persistence of parental bonds in the face of radical child-rearing strategies such as communal crèches,⁴⁰ or the explanation of these behaviours provided by kin selection theory. By comparison, the biologically informed welfare ethics of Westermarck⁴¹ or Eibl-Eibesfeldt⁴² begin with empirical analysis of family relations, guided there by extensive field observations and evolutionary theory.

Radical detachment from biology is common in political philosophy, especially on the Left. Anthony Giddens⁴³ is a leading political theorist of Clinton and Blair's 'Third Way' towards, or away from, state welfare. Giddens has no definition of ethnicity, nor a theory of ethnic behaviour, though he is aware of ethnic solidarity and conflict.⁴⁴ Separately, he also discusses some matters related to reproduction; but he does not link the two

issues. Nor does he observe or analyse the relationship between ethnic diversity and welfare. Indeed, he offers no theory of the cause or origins of ethnic phenomena in general, and as a result has little of substance to say about ethnicity and altruism. This is not to dismiss values identified with the Left, but rather to criticize the anti-biology tradition in Left political theory.¹⁵ Many decades after the débâcle of Lysenkoism in the Soviet Union and 150 years after Darwin's *Origin of the Species*, the ideological niche of a biological humanism remains undeveloped. Peter Singer, a leftist political philosopher, argues that the Left is not bound to abjure knowledge of human nature, and urges fellow radicals to inject into their policies some realism about humans as an evolved species.¹⁶

Biological humanism has yet to be comprehended in practice even by the left wing of the ecology movement. How else can one explain the failure of America's Sierra Club, a leading nature-conservation organization, to take a position on the massive immigration that has made the United States' population among the fastest growing of industrial countries? And what other explanation exists for the policy of Germany's Green Party to introduce large-scale continuous immigration to Germany in order to maintain the population level and thus keep the economy strong?¹⁷ Germany is one of the world's most densely populated nations with attendant chronic problems of crowding, pollution, and environmental stress. Since the late nineteenth century it has also been a relatively generous welfare state, something favoured by the Left. Yet the Greens behave as if immigration has no negative impact on ecology or welfare. Elsewhere, the Greens behave in a manner consistent with environmental concerns, advocating policies that would benefit the environment at the expense of the economy. One of their policies has been to raise the petrol tax until owning petrol-fuelled cars becomes prohibitively expensive. As a party of the Left, the Greens also support the maintenance of wealth redistribution and care for the underprivileged. Yet in the area of immigration, they propose a policy arguably at odds with these latter values and fundamentally at odds with their core value of conservation. Ecologically minded intellectuals are not uniformly insensitive to human social ecology. For example, the Australian poet-cum-ecologist-activist, Mark O'Connor, links large-scale immigration with the destruction of Australia's fragile ecology.¹⁸

Walzer continues the family metaphor of the state, describing the situation where immigrants remain unnaturalized: 'Then the state is like a family with live-in servants.'¹⁹ These remarks are intuitive, lacking a formal theory connecting the sphere of kinship with the sphere of ethnicity. Perhaps intuition is how, despite his drawing parallels between nation and family, Walzer remains strongly committed to generous welfare in multi-ethnic states: '[T]he citizens of a modern industrial democracy owe a great deal to one another ... [E]very political community must attend to the needs of its members as they collectively understand those needs ... [a]ccording to the

principles] that the goods that are distributed must be distributed in proportion to need; and that the distribution must recognize and uphold the underlying equality of membership.⁵⁰ At the same time, Walzer acknowledges that the United States, compared with other Western societies, maintains one of the 'shabbier' welfare systems. Why? Ethnic and racial diversity are not cited as possible causes, though part of the reason, he thinks, is that some ethnic and religious groups run their own welfare programmes. Another explanation he canvasses is the popular American ideology of self-reliance and entrepreneurship.

Walzer admonishes his fellow Americans to support generous welfare despite his being aware, as we have seen, of the implications of multi-ethnicity for the welfare ethic at the state level. To recapitulate with different quotes: Walzer sympathizes with the view that unlike traditional nations, America is ethnically 'anonymous'. 'There is no country called America.'⁵¹ The United States is not like a family; it is not a *patrie*. With some qualification, Walzer agrees with Kallen's view, enunciated in the early twentieth century,⁵² that the United States is not a nation-state of a particular (i.e., ethnic) kind. The primary political commitment in the United States is to protect individual freedoms; a commitment that is consistent with feelings of gratitude, loyalty, and even patriotism of a certain kind, 'but it doesn't make for fellowship'.⁵³ Walzer's intuition strays from his theory, since as we have seen, he (and Jordan) argues that kinship or some other sense of fellow-feeling is a necessary psychological underpinning of distributive justice.

It would seem that despite admonitions, Walzer all but recognizes and accepts as inevitable the depressed state of welfare in multi-ethnic states: 'Americans are communal in their private affairs, individualistic in their politics. Civil society is a collection of groups; the state is an organization of individual citizens. ... For support and comfort and a sense of belonging, men and women look to their groups; for freedom and mobility, they look to the state.'⁵⁴ If ethnic and religious groups, like families, offer organic mutual aid, then the political community will offer welfare in a less spontaneous, less generous manner. In Walzer's theory, that would seem to be an inevitable corollary of multiculturalism.

Walzer's positions on diversity and welfare are contradictory. On the one hand, he seems to be claiming that nations offer their citizens welfare to the extent that they resemble families, being thus motivated to provide mutual aid to their members. In this sense, he maintains, the United States is not a nation but a multi-ethnic state, implying that a nation is a politically organized ethnic group. However, Walzer does believe that some cultural and political identity is possessed by the United States, found in shared cultural artefacts, songs and dances, and style of life, and also in an idea of America.⁵⁵ (Even Walzer cannot resist calling the United States 'America'.) There are more and more 'native Americans'; those who have ancestral memories based within American territory. However, this American

nationality is different by not being exclusive; it does not belong to one ethnic group. Here, Walzer seems to drift from the logic of his argument by accepting that the United States is still a nation, albeit an ethnically diverse one and thus lacking status as a *patrie*. He thus rejects the view that a nation is necessarily a politicized ethnic group, allowing him to get back on his original track that America is not a people but an idea. His use of the non-analytic term 'destiny' in the following quotation indicates further recourse to intuition:

It isn't inconceivable that America will one day become an American nation-state, the many giving way to the one, but that is not what it is now; nor is that its destiny. America has no singular national destiny -- and to be an 'American' is, finally, to know that and to be more or less content with it.⁵⁶

Walzer's confused analysis of the connection between welfare and ethnicity is not an isolated case. For example, Schuck⁵⁷ discusses policy options for maintaining Americans' welfare standards and cohesion in the face of massive 'Third World' immigration. He begins with the proposition that community is the central concept of politics. It follows, Schuck states, that immigration law is a leading instrument for shaping a political society. Immigration law is, or should be, an answer to the questions that all societies must ask themselves: 'What are we? What do we wish to become? Which individuals can help us to reach that goal? And most fundamentally: Which individuals constitute the "we" who shall decide these questions?' Schuck answers with the view that the United States is a concept, not a people, or rather that if there is an American peoplehood, it is defined by adherence to a set of ideals, namely individual rights and equal opportunity. Yet even this detribalized notion of nationhood tends towards closure against indiscriminate immigration in the interests of maintaining a decent standard of welfare:

Despite the aggressive, destructive jingoism to which national closure can occasionally lead, the idea of a national community makes the triumph of social justice and individual freedom more likely. Having ordained an activist welfare state that increasingly defines liberty in terms of positive, government-created legal entitlements to at least minimal levels of individual security and well-being, the nation cannot possibly extend these ever-expanding claims against itself to mankind in general.⁵⁸

Schuck goes on to point out the occasional need for intense national solidarity in times of emergency, such as defence, and the day-to-day need for a sense of community. Excessively liberal immigration policy does not produce solidarity. 'Both the universal brotherhood of man enjoying natural

rights and the society of strangers linked by little more than the market are too impractical and alienating, and represent too impoverished a view of what our social, psychological, and political natures require, to fully realize our humanity'.⁵⁹ He notes Walzer's concurrence with this view. Whether empirically true or not, so far the analysis is coherent. Schuck now turns to expressing these principles as immigration policies: Who should be chosen as immigrants?

A sense of national community is greatly enhanced by a common language, Schuck thinks, as is keeping immigration small.⁶⁰ Other factors include a skills criterion that facilitates integration into a post-industrial economy. These measures are not enough, Schuck warns, to prevent social fragmentation due to ethnic conflict, especially in a liberal state that encourages retention and celebration of identity (multiculturalism). Interestingly, Schuck breaks with his own analysis by rejecting the building of ethnic homogeneity as a means for ensuring long-term national cohesion. Not analysis but values, modern American values, rule out selection by race, Schuck believes.⁶¹ Yet for much of its modern history, from 1880 to 1965, America was ruled by, or preserved, values which Schuck considers un-American. During those years, Congress deliberately undertook to forge an American identity by restricting immigration on ethnic criteria. Schuck offers no theoretical criticism of these measures, perhaps because they accord with his own analysis of community-building. However, he is highly critical of the motives activating these restrictions: 'class-based opposition to foreign labor, racist animosity towards Asiatics, xenophobic hysteria, religious bigotry, and repression of radical movements in which new immigrants from exotic cultural backgrounds were prominent'.⁶² The contrast between Schuck's social analysis and moral intuition could not be starker. Although he defends national exclusivity as a means for protecting a dignified standard of living and building a sense of community, he rejects the restriction of immigrants from different ethnic backgrounds who competed for jobs and small-business niches in nineteenth century America. Would it not be consistent with Schuck's own principles to limit the entry of those likely to hurt a large segment of the population? Also, it is difficult to see why an exponent of a liberal welfare state should be critical of attempts to keep communists ('radical movements') out of the country. Would America's welfare, freedoms, or cohesion have been enhanced by an infusion of activists whose ideology caused so much death and destruction in the Old World? Finally, it is odd to find someone who stresses the virtues of community, also pathologizing the preference for one's own ethnic group and religion with phrases such as 'xenophic hysteria' and 'religious bigotry'. If people are thirsty for a sense of community as Schuck claims, if we need a community 'to fully realize our humanity', why is this impulse not valid as a motivation for restricting immigration? Recall that in Schuck's view, immigration is an answer to the vital question, 'What are we?'

Let us return to Jordan, who goes on to agree with Thomas Faist about the hazards posed to welfare rights by large-scale immigration leading to ethnic pluralism. Faist concludes that 'the current ethnicization and racialization of European welfare states indicate that ethnic heterogeneity will probably be accompanied by further diminution of redistributive and regulatory activities of welfare states'.⁶³ The mechanism of welfare decline, Faist believes, is resurgent nationalist-populist policies, in which nationalist politicians mobilize voter support for exclusionist or reduced welfare policies on the grounds that foreigners free ride on the contributions and infrastructure of the host society. Jordan gives essentially the same view, but adds the point that there is more than a kernel of truth to accusations of free riding by illegal and legal immigrants. They do in fact use some welfare provisions, such as health services, and when they gain legal status they claim entitlements from funds to which they have not contributed.⁶⁴ He then gives an assessment similar to Faist's, with the same qualification that nationalist concerns are not 'real issues':

The politics of welfare must somehow address the issues raised by [immigrant free riding], because ordinary voters are aware of many of the issues, and because authoritarian nationalistic parties constantly play upon them with alarmist propaganda, dwelling on the threat to national culture and racial purity, the loss of national identity, congestion of welfare goods to the disadvantage of citizens ... and the links between race and immigration and perceived problems of rising disorder and crime.⁶⁵

Incidentally, Jordan does not see ethnic values as illegitimate for minorities. Nor does he accuse minority ethnic loyalists of authoritarianism, populism, or paranoia. Indeed, he notes that liberal theory recognizes special rights for minorities to protect their cultural identities.⁶⁶ Jordan himself sees ethnic pride as a basic good when expressed within the limits of reasonableness, and notes that this entails the retention of cultural identity. 'Cultural identity as a source for self-respect must be affirmed, valued and honoured, and this can only be made possible by protecting it from rules enforcing public conformity'.⁶⁷ He then describes ethnic affairs in the modern Western liberal state as dominated by an official culture: that of the majority. Even states not claiming a particular national identity do, in fact, privilege the majority identity, and 'protect national ways of life'.⁶⁸ Jordan suggests that social justice in the multicultural state requires that equal recognition be given to all identities, and that these be equally celebrated regardless of relative population size. Democracy would thus seem to be an intrinsic problem for this pure brand of multiculturalism. Even the most liberal, pluralistic societies, states that enforce equal opportunity and affirmative action for disadvantaged minorities, that have abolished ethnicity as an immigration criterion,

nevertheless are oppressive ethnic regimes serving the prejudices of the majority, in Jordan's view. Even the United States oppresses minority ethnic cultures, Jordan believes, despite the fact that, according to official projections, its founding European-descended population is headed for minority status by the middle of the twenty-first century,⁶⁹ and even though the country's president from 1992 to 2000 urged white Americans to accept their coming minority status.⁷⁰ Jordan's analysis sets up a stringent standard of ethnic fairness in multi-ethnic states; it is no wonder that he does not recognize the legitimacy of protecting majority ethnic sensitivities or interests,⁷¹ for example, through restrictive immigration. Yet he also makes clear that immigration poses serious threats to social justice. The first threat is the fragmentation of welfare states, the second is the proliferation of 'narrower mutualities', and the third is increasing social exclusion.

Jordan criticizes the new orthodoxy on welfare as being too authoritarian, as costing too much in liberties as a means of enforcing discipline of potential free riders such as single mothers and long-term unemployed. Loss of liberties is a severe cost in liberal political theory, yet Jordan does not believe this moralizing liberal authoritarianism is as unacceptable as a policy that preserved these freedoms by limiting immigration. One must infer that Jordan considers limiting freedom as negotiable but not serving majority ethnic interests, since he rejects without argument policies that would maintain welfare by conserving the sense of national kinship: policies he deems xenophobic.

Jordan notes early in his account that the new orthodoxy is limited, for the time being at least, to two Anglo-Saxon countries: Britain and the United States. Also, 'Anglo-Saxon countries have the highest rates of poverty and inequality, and insecurity of employment, along with evidence of social conflict (such as rising expenditure on criminal enforcement)'.⁷² Anglo-Saxon countries also stand in sharp contrast to other industrialized Western nations that have relatively low rates of inequality and social conflict combined with generous welfare provisions, such as Germany, Sweden, and Austria. Britain's welfare state has traditionally been more generous than that of the United States, yet the share of British GDP spent on income maintenance in 1996 was 21.5 per cent, compared with 37.6 per cent in Sweden. Britain's expenditure exceeded only those of Portugal, Spain, Greece, and Ireland.⁷³

It appears as though the Clinton-Blair policy on welfare contains, as an essential element, appeasements of the majority ethnic group; the group providing most of the tax revenues funding welfare. The policy entails moralistic, communitarian rhetoric that targets the social patterns of non-white minorities. For example, Jordan notes the repeated emphasis in both the UK and the US on reining back on benefits to teenage single mothers, a category in which racial minorities are over-represented. Stress is laid on self-discipline, on countering free riders by putting everyone back to work, and on combating crime with policies such as prolonged imprisonment and 'zero

tolerance' that run counter to post-World War II liberalism. Extraordinarily for liberal leaders, Clinton and Blair advocate the acceptance of unequal outcomes, justifying it with the enforcement of equal opportunities (though the widespread practice of affirmative action, amounting to a continuing push for equal outcomes, has not been condemned by these leaders). All these measures fit a pattern of appeasement of the white middle and working classes, as a cost of retaining some kind of welfare system. And, Jordan notes, it works especially well in attracting support from blue-collar workers; those with incomes just above the welfare threshold, who resent those who free ride on their hard work, stable family life, and abstinence from welfare. Another disaffected group attracted by the new, tough policies is fundamentalist Christian groups who raise the moral criticism that welfare provisions encourage corrupt life-styles. The policies apply especially to young, single, black mothers, the object of criticism from both groups.⁷¹ Appealing to these groups holds the danger, Jordan thinks, that 'a moral majority might as in parts of the USA - turn its wrath against racial minorities.'⁷² The worst possible outcome of the new orthodoxy on welfare would be the fragmentation of any sense of community within developed countries, and the emergence of grotesque inequalities. Yet he and the new liberals he criticizes resist all policies tending to increase ethnic homogeneity, the ingredient that high-welfare states possess, and low-welfare states do not.

At the heart of Jordan's critique of the new Anglo-Saxon welfare policy is his itemization of its unacceptable costs, mainly the loss of benefits and liberties. He criticizes the Clinton-Blair approach for being moralistic and authoritarian in pressuring welfare recipients to submit to stringent means testing and training programmes, and then offering only limited or reduced benefits.⁷⁶ It is also 'an authoritarian, communitarian route to social justice, paying a high price in terms of traditional liberal rights and social protections'.⁷⁷ These costs apply only in Anglo-Saxon countries, where ethnic diversity is the highest among the developed nations. In Continental Europe, costs are not incurred in terms of benefits or rights to citizens, which remain relatively high. Rather the costs fall on non-citizens who want to share in the generous benefits but are excluded by the system through curbs placed on eligibility for citizenship and immigration. As noted earlier, Jordan considers this second set of costs to be unacceptable, and rejects ethnic exclusion out of hand. His message is clear: immigration should be non-discriminatory whatever its impact on welfare rights. Jordan is, however, less repulsed by the second set of costs, that is, costs to the home society. He is unhappy about the reduction of benefits and freedoms within the UK and the US, but considers the matter negotiable, devoting a book-length discussion to it. Apparently, he considers equality and freedom less important within states than between states, but offers no argument for making this distinction.

Jordan concludes by advocating the broadening of welfare entitlements to the whole world based on the concept of human rights. The main problem he

recognizes in this project is achieving legitimacy in a continuing age of political nationalism. He criticizes liberalism for not having a theory of political boundaries (a shortcoming that Walzer, among others, has tried to remedy within the context of ethnic diversity). Although Jordan is aware of Walzer's concession to membership criteria, he still maintains that liberalism has failed to come up with a viable doctrine for legitimizing redistribution. 'Blood and soil' nationalism does have a powerful theory of boundaries, Jordan notes, but liberalism (and he) rejects this ideology.⁷⁸ Liberalism has offered a set of slogans in place of coherent theory, such as 'diversity within unity', celebration of minority but not majority identities, and selective enforcement of (minority) group rights. Jordan rejects these particularisms and the new orthodoxy's assault on benefits and freedoms. He believes that liberalism still entails the provision of a 'common set of freedoms'. 'All must accept the constitutional settlement that guarantees their freedoms, and the neutrality of the impartial state, keeping their particular differences for the private realm.'⁷⁹ The exception to this rule is that the state intervenes to defend minority aspirations and rights. This is not Jordan's position, and he points to some of its contradictions; but he does admit that his own suggestion of universal human rights as an alternative doctrine (for legitimizing redistribution internationally) is also unviable because some boundary claims against foreigners receiving benefits are legitimate.⁸⁰ Thus he acknowledges 'a seemingly unresolvable dilemma over the ideals for social justice between members of a national or transnational [e.g., the European Union] polity prescribed by human rights, and the rules governing mobility between such political units'.⁸¹ His repeated emphasis of the dangers of nationalism indicates that he doubts that universal human rights have the same ability to legitimize political systems as does that ideology. Nationalism is persistent and powerful, as evidenced by the break-up of the Soviet Union along ethnic lines and the civil war in the Balkans. Even modern liberals such as Clinton and Blair have used nationalist rhetoric to mobilize support for their welfare programmes. All citizens are urged to participate in national revival, and those who resist the call are 'authoritatively required by authoritarian means to do so'.⁸² Jordan thus cannot see his way out of the Clinton-Blair doctrine of social justice within a national framework. His problem seems to be a doctrinaire embrace of ethnic diversity combined with limited knowledge of the link between diversity and welfare. As the empirical chapters in this book overwhelmingly indicate, ethnic homogeneity facilitates welfare rights without added coercion, surely a combination desirable to liberals.

The same doctrinaire attachment to diversity is evident in current debates about the decline in social capital within the United States. As discussed in Chapter 1, a survey of 30,000 Americans in 40 communities released in March 2001 found that when different cities are compared across the United States, ethnic diversity emerges as a major predictor of depressed community trust, greater social isolation, less participation in politics (including voting),

and fewer social contacts across class lines.⁸³ The survey adds ethnic diversity to the list of possible causes previously cited by the survey leader, Putnam,⁸¹ as contributing to the decline in America's social capital – greater television viewing, family breakdown, more women in the work-force, and residential mobility. Putnam, a Harvard professor of government, argues that social capital is precious because it makes democratic institutions responsive to popular needs, aids economic development, improves the quality of education, counteracts crime thus making public spaces safe for the average citizen, and improves psychological and physical well-being. However, Putnam and the survey authors reject without discussion one method for bolstering social capital indicated by their own research – limiting ethnic diversity, for example by controlling immigration. So absolute is their rejection of diversity-mitigation as a policy instrument that they cast doubt on the efficacy of religion as a means of rebuilding civic engagement, on the grounds that religious people tend to reject diversity.⁸⁵ Yet their survey shows religious communities in the United States to be rare bastions of pre-1965 civic health. It seems not to have occurred to Putnam, or to Jordan, that loss of social capital might be an inevitable cost of getting the sort of tolerance needed to make diverse societies viable. In other words, to induce people to be indifferent about their ethnic environment or to prefer diversity, it might be necessary to create an atomized, discontented, uncaring, divided, conflict-prone, distrustful, and politically passive society such as the United States is rapidly becoming. And the reverse might be true. Building communities that are cohesive, contented, caring, inclusive, peaceful, trusting, and politically engaged might entail a resurgence of the conservative values which they so much dislike, especially ethnocentrism. Ethnocentrism is, after all, double-edged.⁸⁶

One possible reason for Putnam and colleagues embracing diversity despite the manifest and multiple social ills associated with it is that diversity offers benefits of great value. Indeed, if this is not the case, then their blank opposition to diversity mitigation is without rational basis. Putnam and his group attribute two values to diversity. The first is a superficial sort of tolerance. Residents of ethnically mixed neighbourhoods claim they have more friendships with people of colour and with homosexuals,⁸⁷ and are simultaneously more conscious of ethnic distinctions. However, the survey indicates that these respondents do not invite non-whites into their homes any more than do residents of relatively white homogeneous areas.⁸⁸ The alleged greater tolerance of diverse cities is based on nothing more than the mere claim of greater cross-racial friendships, while in the more homogeneous areas, people are less aware of ethnicity, have more friends, interact with their neighbours, and are more likely to volunteer for community projects. It is reasonable to conclude that the tolerance praised by Putnam is superficial and probably amounts to general social indifference rather than a positive embrace of diversity. The second value of diversity is

more down to earth, in the form of life-style variety, mainly in cuisine.⁸⁹ Since minimizing diversity is not considered as a solution, one must assume that these two values are considered more precious by Putnam and colleagues than is social capital, even though it was concern for the latter that inspired their research effort. Why the attachment to diversity if it causes so much harm and such little benefit?

Let me conclude this section by discussing one minor and one major flaw in Jordan's analysis of welfare. He describes the traditional Continental European model of social security as a form of social insurance that redistributes money within income categories, thus maintaining the hierarchy of social status groups in retirement. That is, high-income earners pay greater premiums during their working lives and receive more in retirement. The Anglo-Saxon model was different, with low rates of social insurance benefits. This has meant that public assistance has continued to be important in social policy, with the poor being paid out of consolidated revenue.⁹⁰ This is not quite accurate. In fact, the Central European model includes generous monetary provisions for those who fall through the safety net of the user-pays social security and medical insurance schemes.

One problem with Jordan's analysis is that he does not distinguish state and nation. At no point does he define a nation. If a nation is defined as a politicized ethnic group, then citizenship carries different meanings depending on ethnic make-up. Multi-ethnic 'Anglo-Saxon' states resemble nations less and less as their core ethnic group declines in influence and relative numbers, while assimilationist states are in the process of continuously forging a nation. Citizenship in multicultural states can be stripped of any identity linking ethnic and state, while in nation-states, such identity is widespread and rooted in the history of the founding culture. Without a concept of nation it is little wonder that, as noted earlier, Jordan cannot explain the connection between public altruism as expressed in generous welfare, and 'kinship or fellow-feeling, or some other ground for favouring the claims of some and excluding others'.⁹¹ He has some inkling that such a connection exists, but has no theory in which to embed this insight (as noted above, gained from Walzer). In particular, his concepts for dealing with ethnicity and nationality are deficient, and he has no theory of altruism; surely a concept useful to the analysis of democratic redistribution. Indeed, the term is not indexed in his book. Without these concepts it is difficult to go beyond the initial observation to ask *why* kinship or fellow-feeling is needed to elicit altruism.

CONCLUSION

In several places in Miller's 1995 monograph *On Nationality*, he speculates that national solidarity is bound to boost welfare expenditure, but concedes that

'there is no hard evidence connecting states that rest on common national identities with redistributive schemes of social justice'.⁹² Walzer⁹³ implies a similar effect in his metaphor of the family as the most generous 'welfare state', though he also lacks the evidence to test the implication. The empirical findings of this symposium, which support Miller's and Walzer's intuition, should therefore be of considerable interest to theorists of nationality and welfare as well as to policy analysts.

Evolutionary theory should also be able to assist policy analysis. Neither Miller nor Walzer state that ethnicity as shared descent is necessary to produce national solidarity. Both believe that a sense of community can be constructed, to a significant degree, from any mix of descent groups. Walzer is more ambivalent than Miller, arguing that multicultural societies will never have the organic solidarity of homogeneous ones. Miller is more optimistic, believing that only cultural traits need be shared in order to build a sense of nationality that encourages welfare.

The common traits can be cultural in character: they can consist in shared values, shared tastes or sensibilities. So immigration need not pose problems, provided only that the immigrants take on the essential elements of national character. Indeed it has proved possible in some instances to regard immigration as itself a formative experience, calling forth qualities of resourcefulness and mutual aid that then define the national character – I am thinking of the settler cultures of the New World such as the American and the Australian.⁹⁴

In fact, it is precisely the 'settler societies' of the New World that display the lowest levels of public altruism among the developed economies, providing their citizens with relatively meagre welfare provisions and tolerating the most extreme inequalities among the developed economies. As reviewed in the target paper quoted in Chapter 1 of this volume, several analyses of the link between ethnic diversity and welfare within the United States and cross-nationally indicate that cultural markers are limited in their unifying effect. Common descent, a defining property of ethnicity, does seem to play an important part in producing communal solidarity. The empirical findings fit a more literal interpretation of Miller's earlier sentence: 'National divisions must be conceived as natural ones; they must correspond to what are taken to be real differences between peoples.'⁹⁵ That interpretation is facilitated by modern evolutionary theories of ethnicity combined with empirical comparisons of societies occupying different positions on the homogeneity-diversity spectrum. The findings, on balance, call into doubt existing political theory that treats ethnic diversity as an unqualified benefit. The findings point to immigration policy as a major tool for building caring, prosperous communities.

NOTES

1. M. O'Brien and S. Penna, *Theorising Welfare: Enlightenment and Modern Society* (London: Sage, 1998).
2. O'Brien and Penna (ibid.) discuss the following theoretical perspectives on welfare and welfare states: liberalism, Marxism, neo-liberalism, post-structuralism, political economy, political ecology, and post-modernism. Evolutionary approaches do not figure.
3. B. Jordan, *The New Politics of Welfare. Social Justice in a Global Context* (London: Sage, 1998); D. Miller, *On Nationality* (Oxford: Oxford University Press, 1995); M. Walzer, *Spheres of Justice* (New York: Basic Books, 1983).
4. Jordan, *New Politics of Welfare*, p. 25.
5. See ch. 1 this volume; I. Eibl-Eibesfeldt, *Love and Hate: The Natural History of Behavior Patterns* (New York [original German edn, 1970, R. Piper, Munich]: Holt, Rinehart & Winston, 1972/1970); P.L. van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, 1981).
6. Jordan, *New Politics of Welfare*, p. 209.
7. Walzer, *Spheres of Justice*.
8. Jordan, *New Politics of Welfare*, p. 18.
9. Walzer, *Spheres of Justice*, p. 31; and see M. Walzer, 'The Distribution of Membership', in P.G. Brown and H. Shue (eds), *Boundaries: National Autonomy and its Limits* (Totowa: Rowman & Littlefield, 1981), pp. 1–35.
10. H. Sidgwick, *Elements of Politics* (London/New York: MacMillan/Kraus Reprint Co., 1881/1969), pp. 296–7.
11. Walzer, *Spheres of Justice*, p. 48.
12. Ibid., p. 238.
13. Ibid., p. 126.
14. Ibid., p. 41.
15. Ibid.; M. Walzer, 'What Does it Mean to be an "American"?', in M. Walzer (ed.), *What it Means to be an American* (New York: Marsilio, 1990/1992), pp. 23–49.
16. Miller, *On Nationality*.
17. Walzer, 'What Does it Mean to be an "American"?', p. 24.
18. Ibid., p. 24.
19. Ibid.
20. M. Walzer, 'Civility and Civic Virtue in Contemporary America', in M. Walzer (ed.), *What it Means to be an American* (New York: Marsilio, 1974/1992), pp. 81–101; see p. 82.
21. Ibid., p. 97.
22. Ibid., p. 92.
23. Ibid., p. 99.
24. Ibid., p. 98.
25. G.P. Freeman, 'Migration and the Political Economy of the Welfare State', *The Annals of the American Academy (LAPSS)*, 485 (May 1986), pp. 51–63.
26. Ibid., p. 52.
27. Ibid., p. 53.
28. Ibid., p. 54.
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69. J.C. Day, 'Population Projections of the United States, by Age, Race, and Hispanic Origin: 1993 to 2050', Current Population Reports, No. P25–1104 (US Bureau of the Census, November 1993).

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71. None of the scholars reviewed in this chapter discuss the concept of ethnic interests, although Jordan implies that members of ethnic minorities have an interest in escaping cultural assimilation by majorities. This is an extraordinary omission considering that ethnic independence and status have been engines of politics from tribal times, and nationalism is still a driving force in domestic and global affairs. From the most ancient historical records to the present day, individuals have often behaved in ethnic conflicts as though they were defending an interest more precious than their own lives; tribal and national sentiment can leave few individuals unaffected. Yet political philosophers who devote themselves to understanding ethnic relations and group rights do not examine what this interest might be. From an evolutionary perspective, an individual has two sorts of ethnic interests: (1) proximate interests consisting of emotional attachment to a group, bound up in ethnic identity; and (2) ultimate interests consisting of the individual's inclusive fitness (copies of his or her distinctive genes) stored in the ethnic group. See F.K. Salter, *On Genetic Interests* (Frankfurt-am-Main: Peter Lang, in press).
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